



## **The Enamel Organ.**

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It is the object of this paper to report the results of a series of investigations made by the writer, relative to that product of the epiblast known as the enamel organ. The information derived has been by the aid of very many serial sections obtained from sheep embryos ranging in size from two and one-half inches to seven inches, which about corresponds to a period included between the tenth and thirtieth weeks in the human foetus. The tissues were imbedded in paraffin, the sections stained either in carmine and picric acid or haematoxylin and eosin, the latter stain possessing the advantage of producing a decided contrast between the cells of epiblastic and mesoblastic origin. Canada balsam was used as the mounting medium.

The advantage to be derived by the use of very many sections in the study of cell differentiation and embryonal tissues in general cannot be overestimated, for while in reality the process in a given organ or tissue is identical, yet the possibility of disarrangement or disassociation by killing, hardening, infiltration, etc., are so many that the information obtained from a limited number of slides is very meagre and unreliable.

In a general way there are many features in connection with the enamel organ about which there appears to be but little dissension. Its derivation is positive; four layers of cells are recognized; the double function as a molder of the tooth crown, as well as superintending the process of amelification is accorded it by most writers. The life, the form and the extent of the organ, the character of its cell layers with their progressive and retrogressive changes are deserving of further consideration. It has been suggested that in the early stages these specialized cells should not be classified as the enamel organ, reserving this appellation until the ac-

tual appearance of the ameloblasts which marks the beginning of its functional activity. While I fail to recognize the necessity for such a distinction I shall treat of the organ only after it has gained definite proportions similar to those shown in Fig. 1.

The life of the enamel organ may properly be considered as beginning when the bulbous extremity of the specialized cells given off from the lingual face of the tooth band become invaginated, and from this by



FIG. 1.

a rapid proliferation of its cells it passes on by successive stages assuming the various forms common to it. This proliferation and differentiation of cells continues up to the time of beginning of calcification, but with the advent of this phenomena certain parts of the organ begin to degenerate. This degeneration may or may not be classed as an atrophy of the cells interested, but the fact that a new tissue is generating and gradually occupying the space previously taken up by the formative cells, calls forth a demand for the removal of the latter by the former.

The cells which first undergo this change are those of the internal epithelium and stratum intermedium, the individuality of these two layers evidently being kept up by migratory cells from the stellate reticulum. It is argued by some writers that the external epithelium begins to atrophy at this period, by others this change is not recorded until the enamel cuticle has been deposited to effectually seal the young tissue and pro-

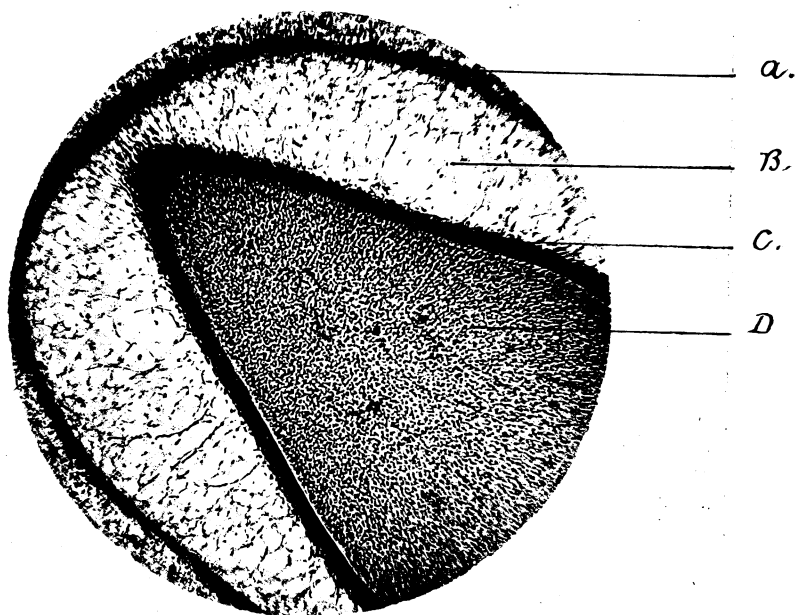


FIG. 2.

A—Enamel epithelial layer. B—Stellate reticulum. C—Internal epithelial layer. D—Dentine papilla.

tect it until well desiccated. Be this as it may, I hope to be able to show a gradual breaking up of this layer which first makes itself manifest soon after that alteration in the internal epithelium whereby the simple columnar cells become markedly elongated.

While there appears to be a decided disposition upon the part of this outer layer of cells to change, they do not disappear, and the alteration is not one which affects the shape of the cells, for they remain flattened or prismatic with their long axis placed parallel with the anlage of the

crown. The stellate cells making up the bulk of the organ are in common with those which inclose them, continually undergoing a degenerative change, at least this is true of those cells closely associated with the stratum intermedium, for in this location they rapidly proliferate, shed their many processes, and gradually take on the characteristics common to this layer of which they eventually become a part. After

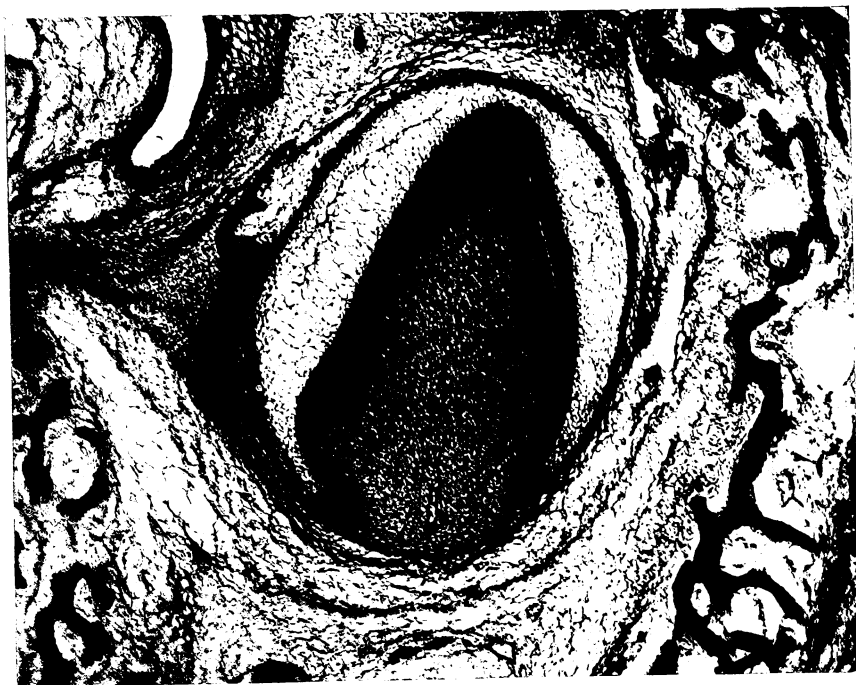


FIG. 3.  
Developing tooth germs. Longitudinal sections from buccal to lingual.

careful examination of no less than one hundred enamel organs in all stages of development, and by section cut transversely, obliquely, longitudinally, etc., I feel fully justified in making the statement that the real life of the enamel organ begins as previously stated, and continues until the structural arrangement of the enamel is completed.

The question of form in the enamel organ is one which may be advantageously used in the consideration of the life and function of its different cell layers. By the form of the organ I mean its external or convex surface, that outlined by the external epithelial layer. It has been

said that the apparently extravagant area taken up by the enamel organ subserves the purpose of reserving space for the growing tooth crown, but there are many reasons why this theory cannot be accepted. In the first place the extent of the organ or the space existing between the



FIG. 4.

Developing tooth germs. Longitudinal section from buccal to lingual.

dentine papilla and the outer enamel epithelium does not in very many instances correspond to the bulk of enamel when this tissue is completed at a given point. In the developed tooth we find the enamel thickest over the cutting edges of the anterior teeth and about the summits of the cusps of the cuspidate teeth, while these same parts are represented during the cellular stage of development by the external layer of cells closely associated with the surface of the papilla. See Fig. 2.

Again we note in very many instances the outline of the tooth definitely represented by the cells making up the dentine papilla Figs. 1, 2, 3, but the surrounding epithelial cells are characterized by an unbroken semicircular margin describing the extent and form of the enamel organ. Exception may be taken to this hypothesis from the standpoint of generative changes, and these in a great measure have much to do with the



FIG. 5.  
Developing tooth germs. Longitudinal section from mesial to distal.

relative outlines assumed by the two organs, but when numerous sections representing nearly every stage of the process, and all of them in a measure showing the same characteristics are studied, nothing but a definite opinion can be the result.

Of the many changes in general form which the enamel organ undergoes, none are so pronounced and positive in character as those described by the inner tunic and first recorded when the bulbous end of the specialized cells becomes invaginated by the mesodermic connective

tissue cells forcing themselves into it. This is an alteration which is gradual and continuous up to the time of beginning of calcification, and while the cells forming the dentine papilla are generally accorded the power of "pushing" or "forcing" their way into those derived from the epiblast, the latter have always been recognized as having a controlling influence over



FIG. 6.  
Developing tooth germs in transverse section. A—Stellate reticulum. B—Papilla. C—Cartilage cells.

the former. In this connection a reasonable doubt presents itself covering the theory so long accepted that the early function of the enamel organ is one which in a measure superintends the contouring of the tooth crown as first represented in the dentine papilla. When the character of the two embryonal tissues making up the two germs is compared, we find the dentine germ possessing all the characteristics favorable to a rapid proliferation of its cells resulting in a highly vascular, compact tissue. On the other hand, we find the bulk of the enamel organ a gelatinous-like mass, one that would readily succumb to the pressure exerted by those

active connective tissue cells within its borders. When thus considered the evidence is almost sufficiently convincing to reverse the generally accepted theory, placing the general form of the enamel organ as subservient to the dentine papilla.

Figs. 1, 3, 4, 5 illustrate some of the variations common to the general form of the enamel organ, and affords a good idea of the relationship existing between the enamel organ and the dentine papilla, in teeth both

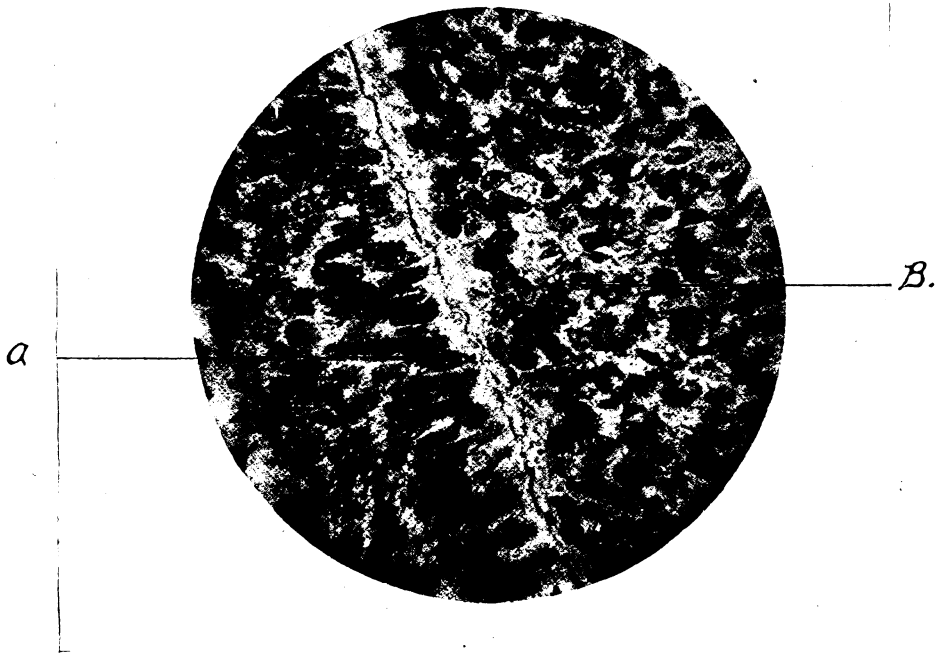


FIG. 7.  
A—Inner tunic of enamel organ. B—Cells of dentine papilla.

of the simple and complex class. These were taken from sections which represent a period just prior to the generation of the ameloblasts and odontoblasts, at which time the external and internal epithelial layers of the enamel organ most closely resemble one another in general outline. It is from this aspect and from sections cut in this direction that most of the information given by the older writers has been derived. So far as I am aware no attempt has ever been made to show this organ in section transverse to the long axis of the tooth anlage. In Fig. 6 the germs



of two teeth are shown by section made in this direction. One striking feature here illustrated is the relationship existing between the inner and outer tunic of the enamel organ, and attention is called to the apparent

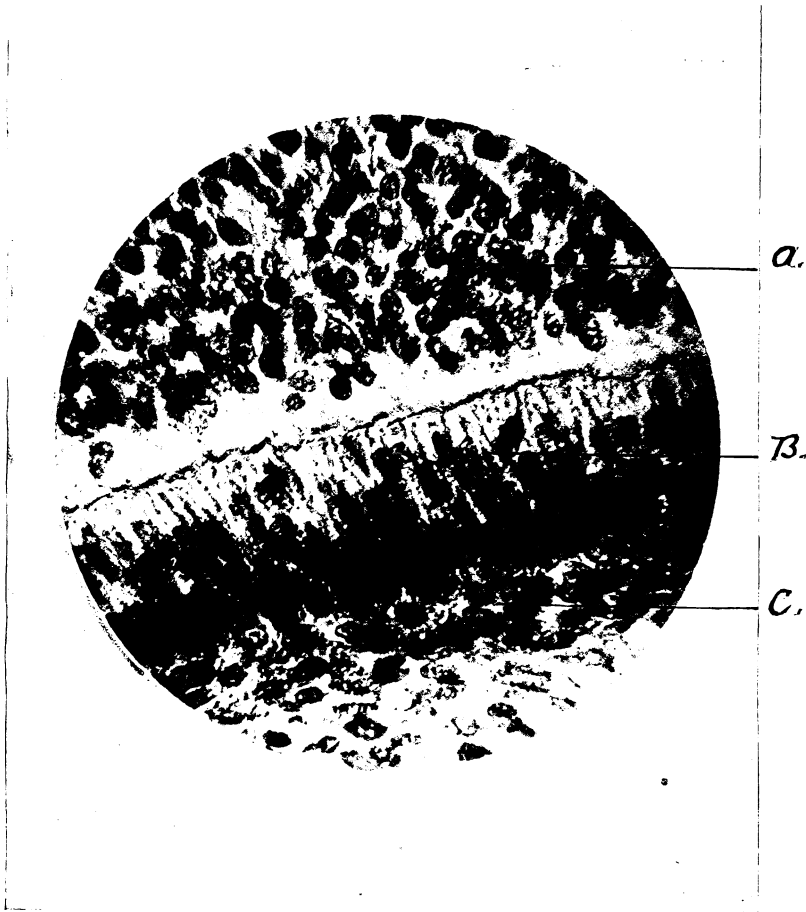


FIG. 8.

A—Pulp cells. B—Inner tunic. C—Stratum intermedium.

coalescence of these two layers at those points which represent the mesial and distal surfaces of the developing crowns. This condition is apparently brought about by the cartilage cells forcing the peripheral cells

of the enamel organ into direct contact with the inner tunic, completely obliterating the stellate reticulum in these localities. As a result of this lateral pressure the outer epithelial cells representing the labial and lingual surfaces have become widely separated, but with no perceptible alteration in the character of the cells composing the stellate reticulum. The relationship existing between the tooth germs and the surrounding

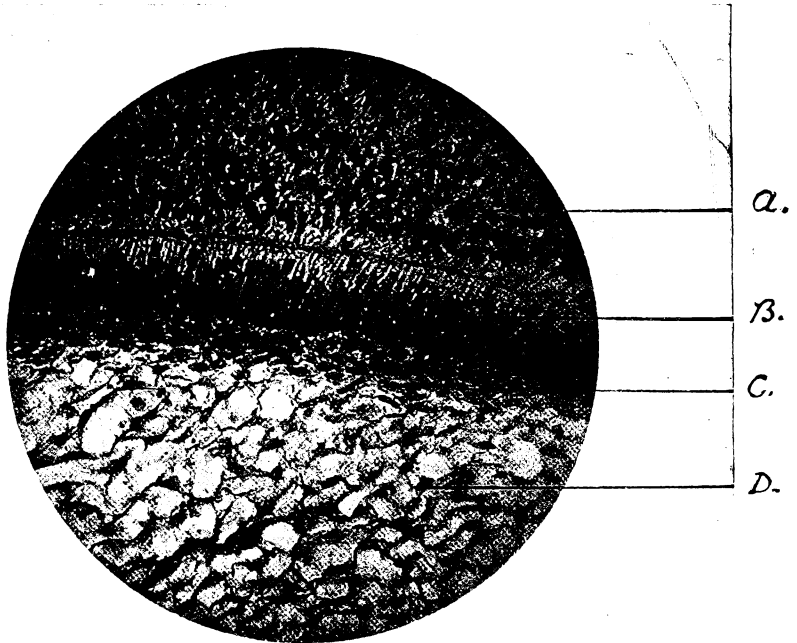


FIG. 9.

A—Pulp cells. B—Inner tunic. C—Stratum intermedium. D—Stellate reticulum.

parts is one that will continue throughout the generation of the organs, and practically upsets the theory that the stellate reticulum performs the function of reinforcing or providing the ameloblasts with nutrient or calcific material. If these same germs were examined as they usually are in longitudinal section (see Figs. 1, 3, 4, 5) the investigator would at once arrive at the conclusion that there was an equal distribution of the stellate cells about all sides of the dentin papilla. My experience has taught me to believe that while in their very early life they apparently

establish an equal bulk about all sides of the dentine germ, that with the preparation for the growth of the alveolar walls they assume the proportions shown in Fig. 6. At a period corresponding to the complete inclusion of the dental germs by the dental follicle the development of the

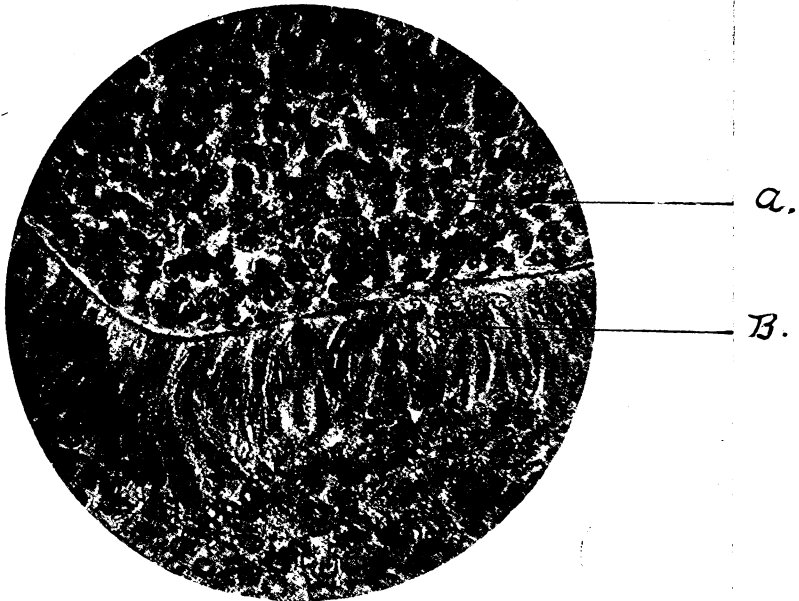


FIG. 10.

A—Cells of dentine papilla. B—Elongated cells of inner tunic.

buccal and lingual walls are well under way, but as yet no provision has been made for the septa between the teeth, and it is undoubtedly to the approach of this latter phenomena that a definite lateral pressure is brought to bear upon the approximating walls of the follicles.

Now let us pass to a consideration of some of the characteristics of the various cell layers composing the enamel organ. These, as is well known, are designated according to their location so far as three of the four layers are concerned, in fact the remaining cells or those which receive their name from their form can scarcely be classified as a distinct layer, these stellate cells not being of uniform thickness in all parts of

the organ. The first layer of cells to which I shall refer are those making up the inner tunic, and to trace the various changes in the form of these cells from their primary spherical condition to their final genera-

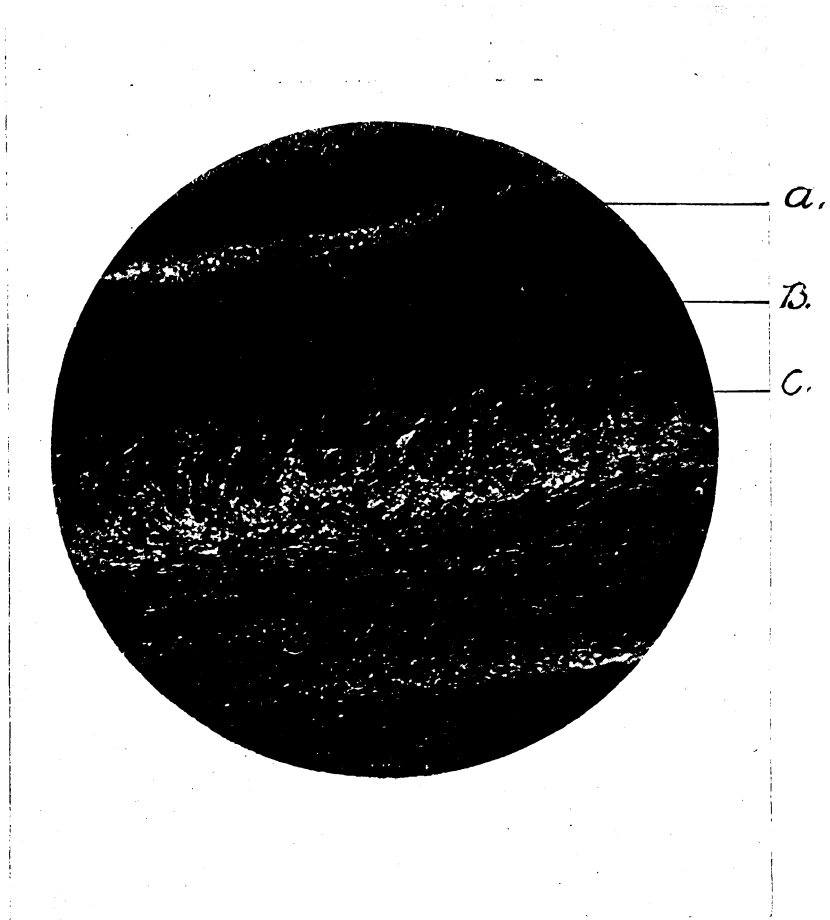


FIG. 11.

A—Forming enamel. B—Calcified dentine. C—Odontoblasts.

tion into ameloblasts is an interesting study. Fig. 7 shows the character of these cells at a very early period, corresponding to the sixteenth week in the human foetus. They are for the most part spherical or slightly oblong multinucleated cells, and are more or less closely associated. They

partake very much of the nature of the connective tissue cells surrounding them, being differentiated from these principally by a transparent zone not unlike the specialized matrix immediately surrounding cartilage cells. About the first change recorded in these cells (see Figs. 8-9) is

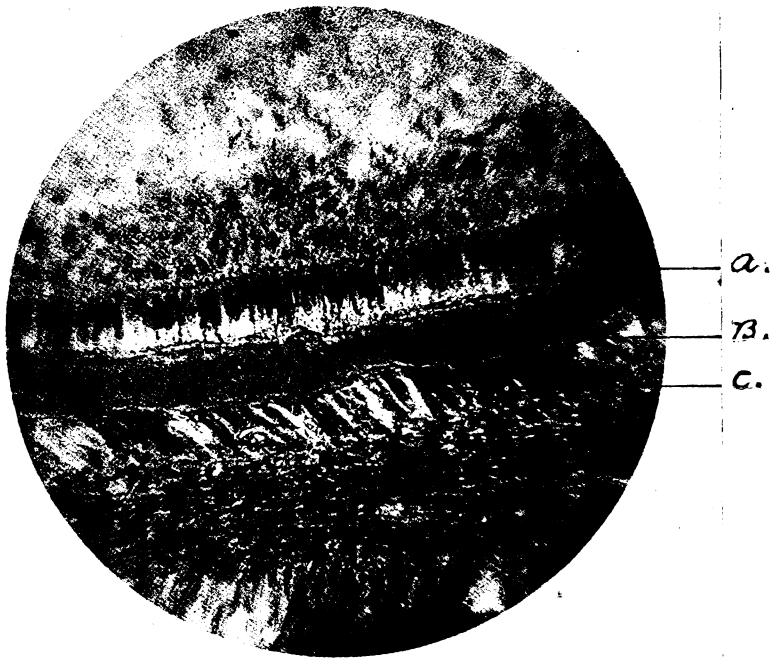


FIG. 12.

A—Ameloblasts. B—Calcified dentine. C—Odontoblasts.

one in which they become markedly elongated or cylindrical, but during this process of differentiation some of the cells apparently recede, while others advance in the direction of the papilla lining up in a single layer to become the early enamel cells, the cells which have been thus

forced to the rear subsequently developing into ameloblasts as the older cells atrophy. At this period the stratum intermedium also asserts itself in the form of a distinct layer of rounded cells to be described later on.

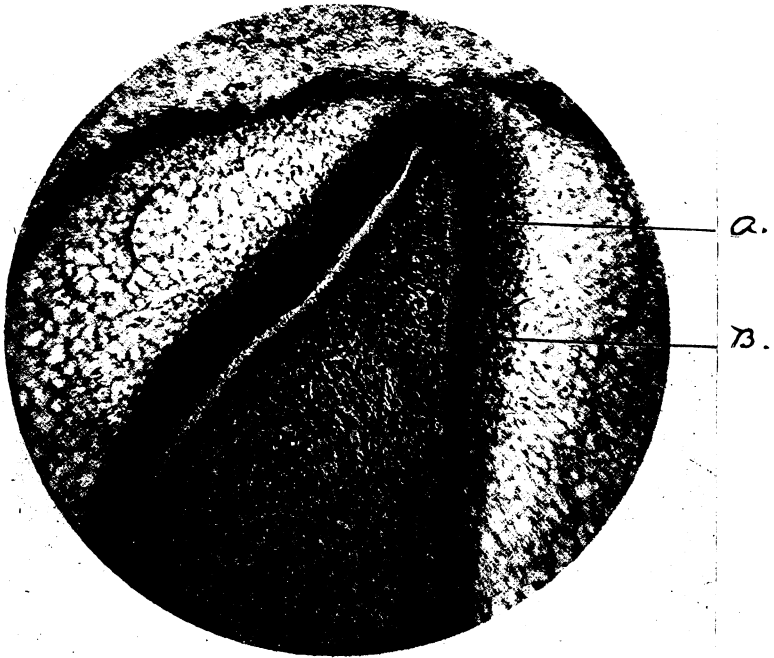


FIG. 13.  
A—Cells of stratum intermedium. B—Ameloblasts.

When first observed these cylindrical cells are devoid of processes, but are provided with rounded extremities, with little or no variation between the end directed toward the papilla and that looking in the opposite direction. This form is one which persists in all of the cells included

in this layer until a definite body of cells is formed contiguous to the dentine papilla, these latter cells becoming more markedly elongated and further differentiated by the addition of processes, while the remaining cells or those nearest the stratum intermedium continue for a time unchanged. The next alteration in the character of the inner tunic is one

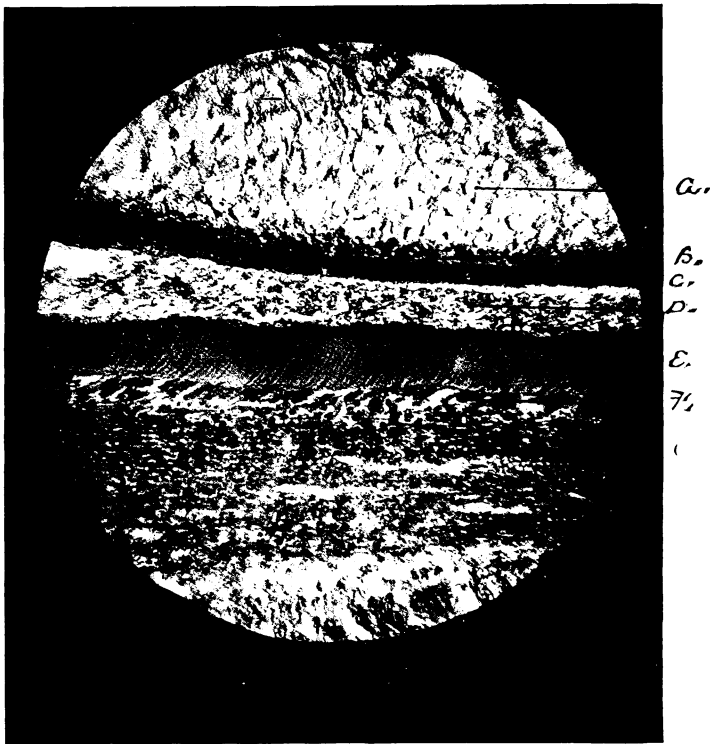


FIG. 14.

A—Stellate reticulum. B—Stratum intermedium. C—Ameloblasts. D—Forming enamel. E—Calcified dentine. F—Odontoblasts.

well illustrated in Fig. 10, in which the body of the generating ameloblastic cells rapidly recede from the surface of the papilla, while the elongating processes reach out to this latter point, all of this occurring before the appearance of the odontoblasts. Soon after this latter change in the cells of this layer the odontoblasts are developed and form the

periphery of the dentinal tissue as shown in Fig. 11. All of these changes are of course first recorded about the free extremity of the tooth crown, becoming less noticeable as the union of the outer and inner tunics is approached.

A study into the special characteristics of the fully developed ameloblasts is of sufficient importance to demand considerably more attention

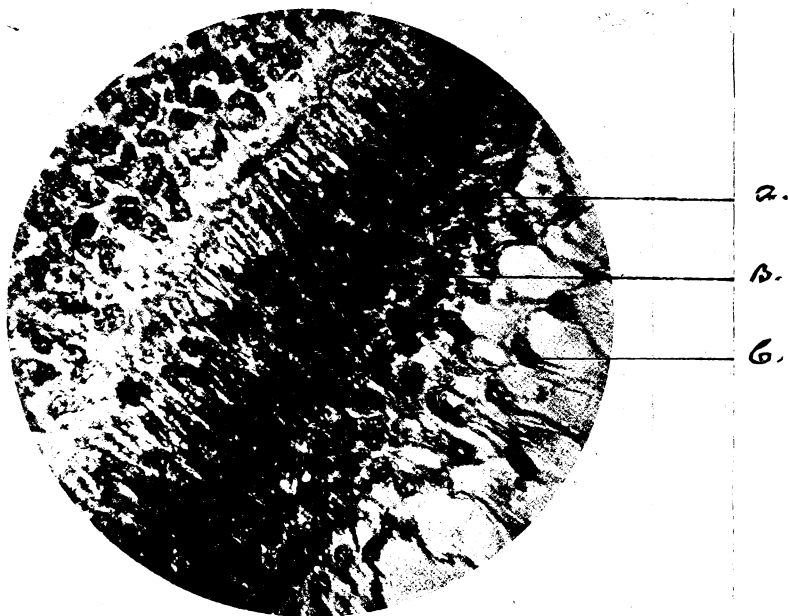


FIG. 15.

A—Generating ameloblasts. B—Rounded cells of stratum intermedium.  
C—Stellate reticulum.

than could be devoted to them in an article treating in a general way of the organ from which they are generated and which provides for their nutrition. It will be observed that these active cells are the result of a gradual change in the character of the columnar epithelia common to both the external and internal epithelial layers in the primitive enamel organ. Fig. 12 gives a very fair idea of the character of these cells as first observed.



Next in importance to the internal epithelial layer are those closely associated cells making up the stratum intermedium. Primarily oval or spheroidal in form we find these cells gradually assuming a columnar outline and occupying a position parallel to the long axis of the crown. (See C. Fig. 9.) It may be said that the general character of these cells is intermediate between those destined to become the proper enamel cells

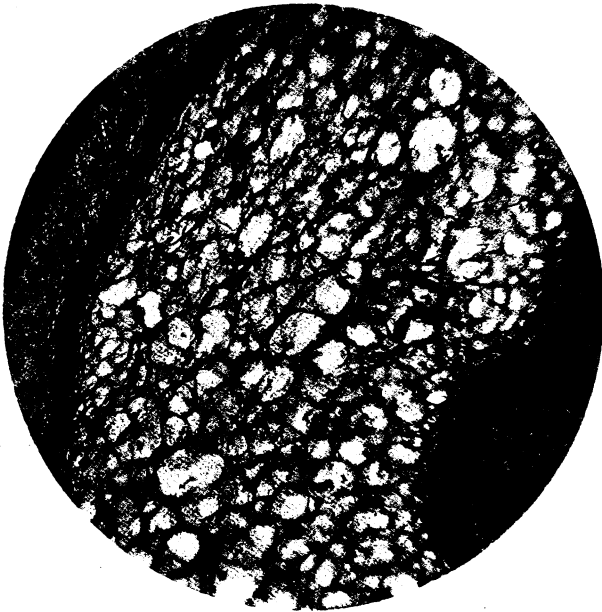


FIG. 16.

and those stellate cells making up the bulk of the organ. There appears to be much confusion, at least considerable doubt in regard to the office of the cells of the stratum intermedium. One of the most satisfactory results of the investigation through which the writer has just passed, is to the effect that these cells are not only intermediate in character, but are also intermediate in function to those cells upon either side of them, recruiting the ameloblasts as they fall, while in turn they themselves are supplied with nutriment from the enamel pulp or stellate reticulum. No stronger proof that these cells are secondary in importance to the amelo-

blasts need be mentioned than reference to the fact that they are always more generously supplied to those parts about to undergo calcification. Fig. 13 shows under low power the summit of the cusp of a developing molar in which the ameloblasts are just forming, and it will be observed about the extreme point of the cusp at which point calcification first appears, that the cells of the stratum intermedium are most numerous, and that they become less numerous in passing toward the base of



a.

FIG. 17.

the papilla, a strong argument that they are essential to the calcifying process. Nor is their increase in numbers the only reason for believing that they are thus employed, for at the same time those cells most closely associated with the developing ameloblasts take upon themselves a decided change in outline. This alteration may be brought about by the conditions which influence the shapes of all cells, i. e., by the pressure of surrounding cells or by the preparation for functional activity or both.

Although some of the older writers speak of the cells of this layer as being branched and in this way closely resembling those of the stellate reticulum, I fail to find any of the cells which may properly be classed as belonging to this layer thus characterized. By strong amplification it becomes somewhat of a task to make a distinction between the two

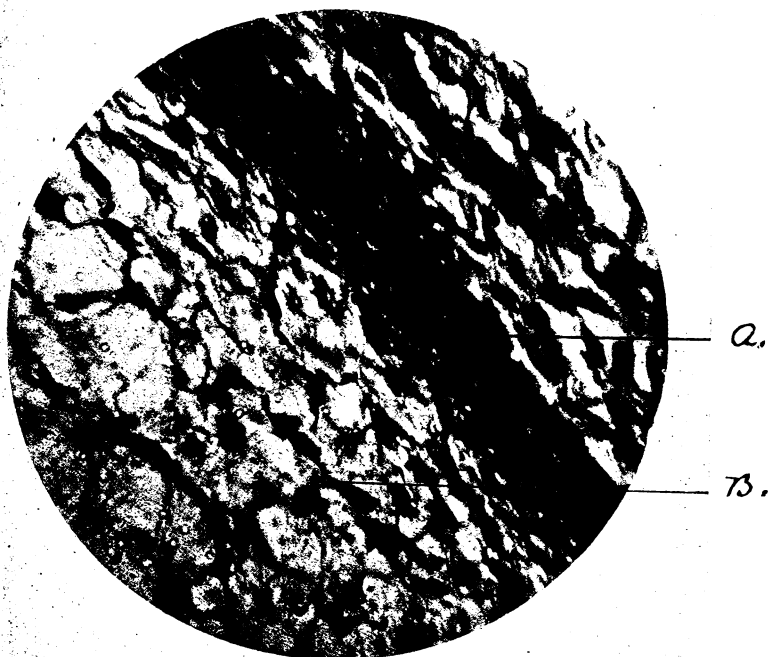


FIG. 18.  
A—Outer tunic. B—Stellate reticulum.

layers, but most certainly if there are branched cells they are confined to the intermediate zone, and should properly be classed with those of the stellate reticulum.

The cells of this layer do not long remain columnar with a general direction at right angles to the forming ameloblasts, but as these latter

cells appear they become spheroidal and extremely closely associated in the deeper portion of the layer, in fact cells corresponding to these in general appearance may be found in connection with the fully developed ameloblasts, being observed to best advantage by the aid of a high power objective and a full flood of light from a powerful sub-stage condenser. The cells thus found appear to be distributed at irregular intervals about the ameloblastic layer, and are so closely allied to the cells of the stratum

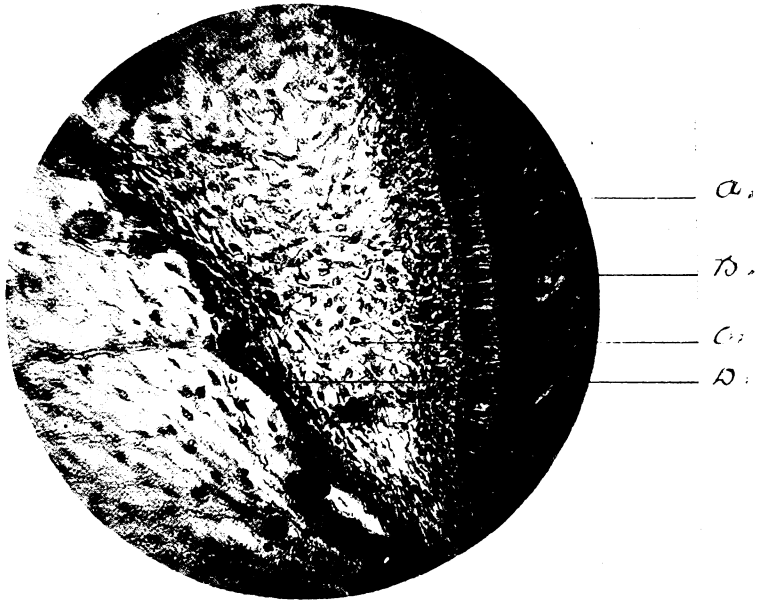


FIG. 19.  
A—Ameloblasts. B—Stratum intermedium. C—Stellate reticulum. D—Outer tunic.

intermedium that they may be considered as migratory cells from this layer. In the earlier stages there appears to be no definite line of demarkation between the cells of the inner tunic and those composing the stratum intermedium, but soon after the establishment of the ameloblasts the two layers are strongly differentiated by the interposition of a highly transparent membrane covering the outer extremities of the ameloblasts. After they are thus definitely separated from the enamel-forming cells, a most radical change takes place in their character; they become

markedly elongated, and by anastomosing form a series of continuous chain-like belts about the ameloblastic layer, the number and further character of which is dependent upon the extent to which the ameloblasts have performed their function. If at any time there is a similarity between the cells of the stratum intermedium and the stellate reticulum, it is at this period, because the former cells begin to loose their individu-

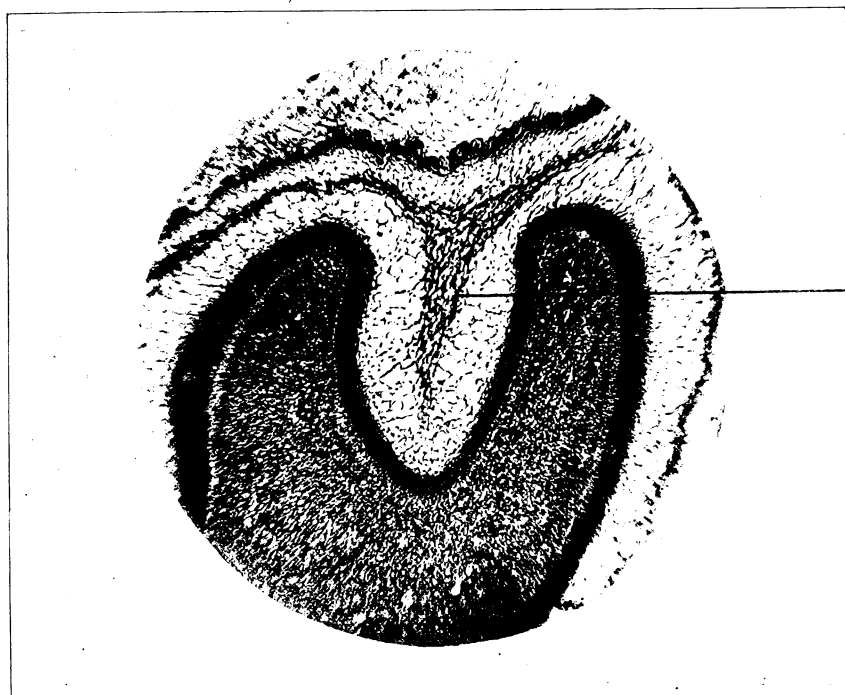


FIG. 20.

ality, although under low power they still appear as a distinct layer, Fig. 14.

There is probably no body of cells directly interested in the development of the tooth tissues so widely discussed as those making up the so-called stellate reticulum, and while the chief basis for argument has been with reference to their function, the general character and form of the cells have received but little consideration. Ever since the first description of this portion of the enamel organ the cells therein have been de-

scribed as "star-shaped," and while this stellate form is the most common it is by no means a universal condition. The form of the cells in common with the other cells composing the organ appear to be much influenced by the position which they occupy, and by the age of the organ, those cells in the region of the inner tunic partaking of the globular form characteristic of this layer (see C. Fig. 15), while those closely associated with the outer tunic are inclined to be columnar or somewhat elongated. While the body of the cells in these respective locations are more or less influenced by their environments, they still retain to a certain extent the stellate feature by their many processes. But it is in the center of this myxomatous epithelial product that the most perfect stellate cells are located. We find, therefore, where this part of the organ is of the greatest width, that the true stellate cells are the most numerous, while at the summit of the crown and at the base of the organ, at both of which points the outer and inner epithelial layers are closely associated, the star-shaped cells are almost wanting. In the study of this layer very much depends upon the thickness of the section, only the thinnest possible sections affording an opportunity for a correct conception. This is of course true of all parts of the organ, but the peculiar character of the stellate reticulum makes it especially necessary that great care be bestowed upon the preparation of the section. Fig. 16 shows the appearance of a rather thick section, and it will be noted that very few of the individual cells are apparent. A section cut sufficiently thin for accurate study cannot well be reproduced by photograph. In transverse section the cells present no characteristic differences from those shown when the section is made longitudinally. One very pronounced feature about the cells of the stellate reticulum is the granular appearance of their protoplasm, resembling very closely the flattened squamous cells from the epithelium of the mouth, and it is no doubt this special feature which furnishes the ground for the opinion of many writers that it is a peculiarly modified epithelium. One peculiarity in connection with this tissue which is contrary to the generally accepted character of epithelial cells, is the abundance of intercellular cement substance, but when the many minute spines or processes are considered as a part of the individual cell, the proportionate quantity of cellular and intercellular substance is somewhat decreased. The connecting processes are quite similar to those described by Stohr as connecting bridges of protoplasm, while the cells themselves may be otherwise described as prickle-cells. The change in the form of the cells of this layer is not due to the presence of neighboring cells, as is the case with most epithelial cells, but being soft and extremely plastic, it is more than likely that their form is strongly influenced by the tension of their connecting filaments. One of the most marked alterations in the general

character of this part of the enamel organ, is that which takes place at a time corresponding to the beginning of amelification, and is no doubt attributable to this phenomena. The cells which up to this period have remained widely separated now become more closely associated, not so much by a change of position as by what appears to be an increase in the size of the cell body with a corresponding decrease in the length of the anastomosing processes.

It is a fact admitted by most histologists that the peculiar star-like nature of the cells of the stellate reticulum, is one principally brought about by postmortem changes, and that in reality they are polygonal cells filling up a greater part of the tissue with but little intercellular substance. That some shrinkage and distortion does take place may be proven by the examination of a section which has accidentally or otherwise become for a moment dry during its preparation, in which case little can be seen but the connecting processes, and even these are much shrunken. All the cells contained within the organ are more or less affected by this procedure, but none of them exhibit such a marked change in outline as those of the stellate reticulum.

The layer of cells which is usually considered of least importance are those which make up the outer tunic. In the young enamel organ the cells partake very much of the nature of those forming the inner tunic, but the older the organ becomes, the more dissimilar are the two layers. Primarily this layer is constructed of a single row of elongated cells (see a, Fig. 17), placed with remarkable regularity, upon the inner side of which are a number of similarly formed cells variously disposed, but with a common direction at right angles to those previously referred to. Like the internal epithelial layer the cells of the outer tunic partake more or less of the nature of the stellate cells in passing from the single row of well defined cells toward the stellate reticulum. While in the beginning the external epithelial layer is strongly differentiated from the surrounding cells, Fig. 18, this is of but short duration. The atrophy of this layer begins with the appearance of the fully developed ameloblasts as shown in Fig. 19, wherein the regular arrangement of the cells is greatly disturbed by an apparent breaking up of the entire layer. Many reputable writers claim that the external epithelial layer is of little or no interest save as Tomes puts it "as a matter of controversy what becomes of it." This admission upon the part of so eminent an authority practically opens up a new field for research, especially so when we consider that various other writers (Waldeyer, Kolliger and Magitot) have expressed conflicting opinions in regard to it. After carefully following the changes which occur in this layer from its earliest inception up to an advanced stage of calcification, I am strongly impressed with the belief that while marked

changes occur in the character of the individual cells as well as in the general appearance of the layer, it is nevertheless persistive, and in some way is essential to the process of amelification, even to a more marked degree than are the cells of the stellate reticulum. One important reason for this belief is based upon the fact that in the cuspidate teeth there appears at a time corresponding to the beginning of amelification, a decided disposition in the cells of this layer to dip down and completely divide the stellate reticulum between the forming cusps, as shown in Fig. 20. That this alteration is one instrumental or essential to the calcifying process receives additional proof by referring to Fig. 1, which shows the fully developed enamel organ with the exception of the actual appearance of the ameloblasts, and the lack of any attempt upon the part of the external epithelial layer to penetrate between the cusps.

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### **Comments on Dr. Hart's Paper Criticised.**

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By WILLIAM H. TRUEMAN, D.D.S., Philadelphia, Pa.

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I have read with deep regret the comments on Dr. Hart's paper in the May number of the *ITEMS OF INTEREST*. Conceding that Dr. Hart is as much in error as Dr. Williams charges; that he has misquoted, that he has misunderstood, that he has failed to appreciate Dr. Williams's purpose in his illustrations; concede, indeed, all that Dr. Williams's comments can possibly correct, "why," let me ask, "is so much introduced in the comments that is entirely foreign to the purpose of making these corrections? Is it kind? Is it gentlemanly? Is it professional? What good purpose is served, for instance, in so often referring to him as A. C. Hart, Ph. B., D. D. S., M. D.?" The tone of the comments throughout is undignified and disrespectful. It is an exhibition of a spirit which in this country has hampered our professional growth, has ever been a disintegrating influence in our professional organizations, and wherever thus expressed is a blot upon our professional literature. Every correction Dr. Williams makes could have been clothed in chaste and respectful language, language one gentleman habitually uses in addressing another, without losing in the slightest degree its force, or risking its legitimate purpose. We have had, and still have, by far too much dogmatic assertion; by far too much intolerance of contrary opinion. Every one is entitled to express those views which his own experience and study have



led him to form, free and without trammel. No one, however, is obliged to accept them. To correct errors such as Dr. Williams refers to, we may consider a duty, but, why not stop when the duty is performed? Why abuse a man because he does not accept and indorse your own views? Of the diametrically opposing views held today upon many points in dental science, who can say which will be the accepted ones a decade hence? The unkind, ungentelemanly and dogmatic spirit bristling all through these comments, is, in my judgment, largely responsible for the want of *esprit de corps* and unity of the dental profession in the United States. It has prevented united action, and has been a factor of no mean proportion in keeping its members in such large numbers outside of professional organizations. Feeling this so strongly as I do, permit me to urge that we should all, on all occasions and under all circumstances, cultivate in ourselves and encourage in others, a gentlemanly deportment in all our professional relations.

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### Alveolar Hemorrhage.

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By CHARLES P. CHUFEIN, D.D.S., Philadelphia, Pa.

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In the May ITEMS OF INTEREST, I notice an article under the above caption by Dr. H. H. Benjamin, of Batavia, N. Y., and wishing to contribute my experience in similar cases, I send the following contribution.

Dr. K. had had an upper second or third (I think the third) molar extracted by Dr. I. D. Thomas, under the influence of nitrous oxide gas, about 9 o'clock in the morning. About 2:30 p. m., of the same day he came to me looking very pale and feeling excessively weak from the loss of blood in the interim, having lost, as he reported, at least two quarts.

His mouth was filled with a dense clot, which, after removal, revealed a constant and considerable flow from the socket of the extracted molar. Syringing this out with hot water, I rolled a pellet of cotton loosely, as large as a marble, and dipping this into a batter of quick setting or impression plaster of Paris, conveyed it quickly to the socket, retaining it in place by more cotton and a cork, which pressed the locality by the opposing teeth.

By the time that this was accomplished, the man was so weak that he could scarcely stand, and I insisted upon taking him home. Although he had less than a block to reach his residence, he fainted twice before I got him home, but the remedy was so effective that, in less than thirty minutes, all bleeding was arrested.

I lay no claim to originality to this treatment, because it belongs to the late Dr. Kingsbury, who reports to have saved the life of a party who lay at the point of death from alveolar hemorrhage, when all other means to arrest the bleeding had failed.

I have been successful in the arrest of alveolar hemorrhage also by the internal administration of five grains of tannic acid in water, taken every half hour until three doses are taken.

**Internal Medication**  
**for**  
**Alveolar Hemorrhage.**

Five grains of tannic acid are dissolved in as much glycerine as will take up this quantity, then one-fourth of a tumbler of water is added. Two tablespoonfuls of this are taken every half hour until three doses are consumed. This has been very efficacious with me, when the bleeding was quite profuse and had continued for several hours.

Whenever a bleeding of this kind occurs after an extraction, the patient should lose no time in consulting a dentist.



# Office and Laboratory

## Time-Saving Horse-shoe Bench.

By CEPHAS WHITNEY, D.D.S., Kingston, Jamaica, B. W. I.

The accompanying illustration (Fig. 1) is from a photograph of my laboratory bench. As will be perceived, it is semi-circular, with an opening

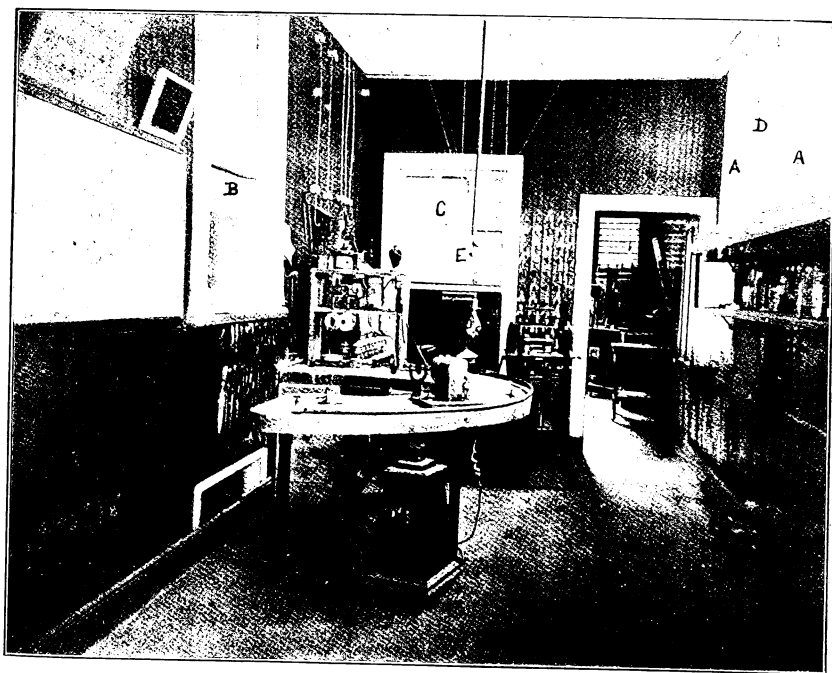


FIG. 1.

at one end of one foot, two inches in width—one foot, six inches would be an improvement. The other end also could be left open, but it was not desirable in my case.

The laboratory windows, six of them in a row, were necessarily (because of division wall) placed six feet from the floor.

A bench under them was found to be too dark, but a delightfully bright light is cast across the room; therefore, I constructed the horseshoe bench shown, to face the light, which is now direct on the work, as will be noticed. Where the windows are low enough, the bench would naturally be built up against them.

"A" and "A" are two of the windows mentioned. "B" is a window leading into an interior room; also is "C," which opens into the operating room. These two windows formerly assisted, and still assist, in lighting

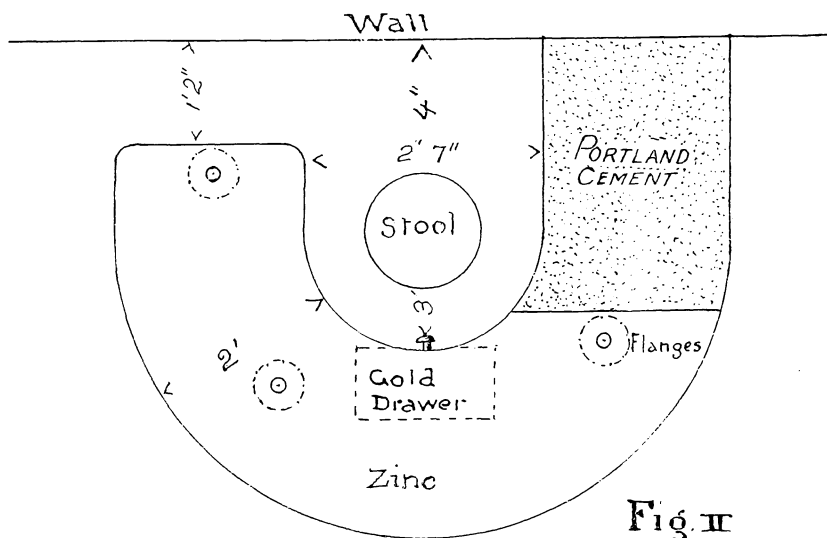


Fig. II

their respective rooms before the laboratory was added, therefore they do not aid in lighting the latter. "D" is a light cotton cloth curtain, stretched upon a traveling frame, which is shifted by means of an endless cord running over wheel "E" (and necessary pulleys), which is worked from the bench without rising. In this manner I can cover any window necessary, simply to keep the unbroken rays of the sun out of my eyes. This is a time saver.

However, the real time saver in this room is the bench. Here I have ten feet of bench space, without rising, by using a revolving stool, as shown. This does not include the wall in the rear, where many tools are kept in appropriate clips.

A chest of drawers is easily discerned under one end of bench, for those things which cannot be suspended, such as gold boxes, taps and dies, polishing materials, etc. A gold drawer for filings is also under the middle of the bench and filing block; the lathe head is a little to the right; still further is the waxing up burner.

Now turn around to the left and all the soldering and melting appliances are at hand, such as blowpipe, pads, case heater, ingot molds, porcelain furnaces, acid dish, etc.

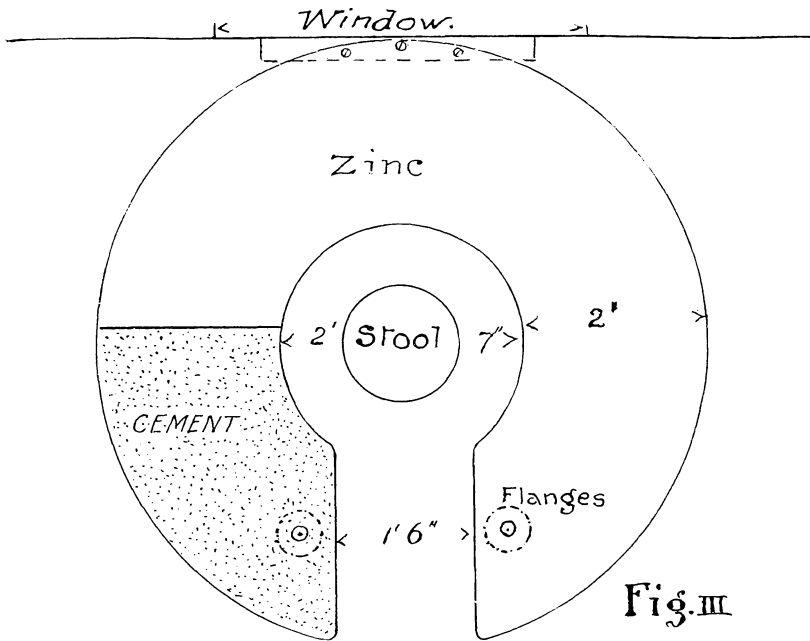


Fig. III

This third of the bench is, for the upper half of its thickness, topped with porcelain cement, because of the heat generated here. The rest of the bench is covered with zinc. It is upheld by three, one and one-half inch iron pipes, threaded into flanges, which are fastened by screws to floor and bench respectively; these fittings can be bought at any hardware store. The gas pipe which encircles the bench is lying loosely there, and can be easily lifted in cleaning zinc.

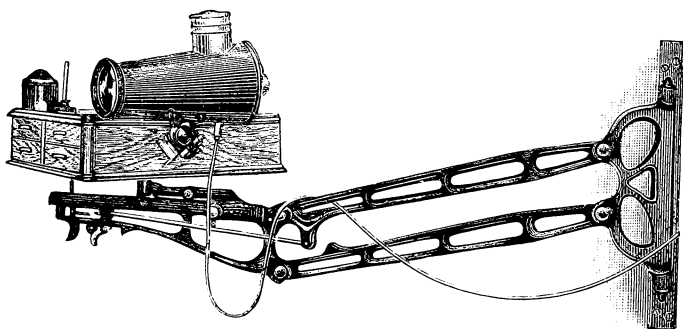
The horseshoe is composed of two layers of boards well nailed together, running at right angles to each other; in this way it is easy, with a

bow saw, to procure the shape. Where the bench is filled in with cement—the lower boards are long so as to catch a leg, and the upper boards are cut short, leaving a depression and base for the cement. Guard boards, or metal on the sides are necessary for molding the cement.

Fig. 2 is a diagrammatic top plan of my bench.

Fig. 3 is a plan for a bench up against window, and in this case only two legs are necessary, the bench being made fast to window also, as diagrammatically shown.

The advantages of this style bench being self-evident, I will not take up any more valuable space by enumerating them.



### Acetylene Gas Lamp for Side of Bracket Table.

By DR. J. H. SIMONS, Waterloo, Quebec.

No doubt many of my confreres are bicyclists of some years' standing, and probably some of them have a searchlight lamp that has been superseded by an acetylene one, and doubtless the old one on the shelf like mine was until a month ago, except when some one borrowed it.

Well, I do not like useless things around. They make one feel wasteful. So I took a pair of gold shears and a glass reflector off a lamp and turned it into a lamp for the side of the bracket table with a one-quarter foot burner attached to a home-made gas plant, for details of which I must refer you to the *Scientific American*.

Finding the focus of my lens was six inches and the focus of my reflector one and one-quarter inches, I had a tube made of copper so that

my burner would be in focus. Had the tinsmith fit the lens attachment into one end of the tube and put three clips on the other end to hold reflector in place. Had the part that clamps bicycle lamp to head riveted on to bottom, which attaches to side of bracket and is out of the way, and the glass sides of lamp, to slide back to insert match, riveted on side, and the top of chimney riveted on top.

Now, by this arrangement you get an intense ray of light on the tooth or mirror and without getting it into the patient's eyes or your own.

No room on the bracket table is used as it is on the side, and the cost was \$1.00 for the tinsmith, 20 cents for reflector and 25 cents for burner, making \$1.45 besides the old lamp which could be bought new for \$4.50 here last year, and in the United States probably a great deal cheaper.

The light is similar to a tiny ray of sunlight, and for dark cavities is simply invaluable. The generator is kept in the cellar, and when it is low the office boy puts in a new charge of carbide.





## **Professional Inspiration, Its Source and Sequel.**

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By B. HOLLY SMITH, M.D., D.D.S., Baltimore, Md.

*Read before the Second District Dental Society, March, 1899.*

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The fact that my invitation to meet with you tonight came through professional brethren whose extension of social courtesies will place me forever under obligation to them, has to some extent influenced the selection of a topic for this discussion. The thought has been prominent in my mind that I was coming here in what is to me a new corner of professional activities to meet friends whose esteem and good will I prize, not only because of their cordial treatment, but because I think I can see back of their good fellowship, back of their many courtesies, an influence and a power which has done much to make our calling an honored profession.

Without any attempt at this time to describe this influence and power, my own conviction of its existence bids me hope that I may without presumption or apology, trace its origin and predict its sequel in history and glowing future of our beloved profession.

It is barely possible that I might have brought a message of a more practical nature, which would have helped to smooth stony places for some of the younger members of this society—some description of practice, which I believe to be essential; some collection of hints, which I have found to be invaluable; but I prefer to accept the probability of a criticism from the practical member with the privilege of turning over, not dead ashes, but (to me) the live coals of events which have wrought for the progress and development of the professional spirit in dentistry. I am willing to be called a dreamer if you will, but let me tell you what this spirit will do for us and ours in a professional way, if we do not stifle it, but give it a chance to grow.



**Interest  
in Work  
an Incentive.**

The pride of a man in his work, whatever may be the character of that work, is all that makes labor endurable in this world of toil and anguish.

It is certainly a redeeming fact that this pride comes to one as a solace, as a defence against the ennui of a purposeless life, as a justification for the continuance of a life apparently useless, as an inspiration for a useful and beneficent life.

Back of this pride we recognize human vanity that delights in its own cunning and skill, rejoices in its own attainments, is puffed up with the consciousness of its own knowledge and power. But this we may not deplore, for under divine guidance this is the stimulus to renewed action, that makes improvement certain and perfection possible. It is the pardonable manifestation of enlightened selfishness, which selects for its form of enjoyment, not sloth, apathy and indulgence, but productive and creative activity, tending upwards in growth and strength.

Contrast, if you will, the heartless efforts of any of those whom tyranny in past ages of despotism, or the strong arm of law, for the protection of society in this day, confine to enforced labor, with the hopeful, cheerful toil of independence and freedom. Compare the galley slave, the convict, with the unrestrained day laborer or artisan, and you will find that the difference is really less in their servile condition than in the reasons for their toil—in the one the compulsion, the driving force is all from without, in the other it is a spark of the Promethean fire from within. This divine spark it is, and we use the term divine because all beneficent force is divine—this divine spark it is, which dignifies the humblest toil, correlates the diversified labors, and unifies the different grades of laborers, whether their sphere be in the physical, the intellectual or the spiritual world.

This, more than any other one thing, inspired the sublime communism of Burns' utterance, when he said:

"Man to man, the world o'er  
Shall brothers be, for a' that."

And just as life is cheerless and hopeless without this redeeming and saving interest in doing something well, just as self-respect, even more than self-interest, calls to every true laborer for this significant testimony to the fact that he is a true laborer, so the decrease or limitation of this pride impairs the effectiveness of work and worker; its lack is degradation and death to both.

We have used the terms work, labor, toil, advisedly; there are no nobler, whatever the field, or whatever the honorary decorations of him

who strives, and the sooner he recognizes this truth, the more grandly do the lines of simple and noble dignity outline both the doer and the deed.

**The Divinity  
of the  
Professional Spirit.**

Deep down, then, in the bedrock granite of a human nature that seeks to perpetuate its kind, to offer the one justifiable excuse for being, lies in its ultimate analysis, the spirit which we must in truth and honesty call professional. In realizing its God-given end, in striving for its divine goal—perfection and nothing less—it has covered this habitable globe with grandeur and with beauty; it has achieved glory; it has fashioned magnificence; it has discovered treasures; it has enriched beyond the gorgeousness of an oriental imagination the nakedness of life—nay, more than its material triumphs are the glories of its spiritual conquests. To intelligence and thought it has given direction and concentration, delivery from the bondage of apathy and fatalism.

How unjust, then, in truth, to restrict or narrow a term so universally applicable; and how useless. For if we split hairs until doomsday upon our acceptance of meanings—the thing we mean, we know exists, and the votes of unnumbered etymologists and definers cannot rob our consciousness of that truth.

Neither can the imperiousness of expansion reach out and appropriate a term for any one occupation or calling, when all that they claim as the true central meaning or idea of the term is as equally applicable in another calling, even though a Congress of lexicographers indorsed and supported them.

Indeed the strenuous efforts to appropriate rather than to share the word “professional,” if it did not have the taint of unfairness would be extremely amusing. A professional—what? Barber, ballet dancer, pugilist, wrestler, actor, grave-digger—what not, when it comes to that? A motley assembly, you say to seek admission to this privileged class of intellectual aristocracy. Unquestionably, and shall we analyze the grounds of their refusal? Shall we seek as professional men the causes for limiting the class?

I think we may without abating or diminishing the value of that spirit which we have called professional, and which extends to honest and honorable toil, still discriminate from our own point of view.

We may, to do this, accept the limitations even of the Brahmin caste of professional men—the medical profession itself. For when all is said, their claims to restriction in the term may be stated in a few broad, general propositions.

That liberal attainments are the requisite for admission to the class designated as a profession.

That an extended period of severe trial should be joined to this last.

That the aims to be accomplished—the sphere of the profession's activity, is worthy, is elevated, is noble.

Does dentistry, our chosen calling, fall below this ideal? Do we as dentists measure up to this standard?

In a recent paper read before the New York Odontological Society, Dr. J. Leon Williams, a man whose intellectual attainments and laborious services to his profession qualify and entitle him to speak for dentistry, as few of his co-laborers are qualified and entitled, reproached the profession for its lack of scientific attainments. Now while this paper is in no sense intended as a criticism of, or an answer to, Dr. Williams's statements, its preparation gives me the opportunity of expressing the lively hope that even though his statements stand proven, the outlook is not so calamitous as it might seem.

I am not prepared to say a rapid and sure development of professionalism is necessarily accompanied by scientific attainments, and I am quite willing to accept the truth of Dr. Williams's statements as bare facts, but I am entirely unwilling that they should be used without qualification. Indeed, my willingness to have these statements entertained at all, is not born of my love for the disagreeably true, but of the rosy and hopeful conception which I have of the near future, in which contrasts are presented which are flattering to my optimistic soul.

To the American dentist the history of his calling with the biographies of the men who have practiced it in whatever corner of the earth they are, uncovered and however prosaic and uninspired their lives may have seemed, will always be of absorbing interest; and this, not because we are hoping to fix for dentistry an aristocratic origin, or trace it to a noble foreign birth, but because of a sense of proprietorship in it; it belongs to us, and we want to know all that is to be known about it.

So much for our interest in dentistry at large; but what shall we say of the record of our struggling infant at home, and the lives of those who nursed and cared for it, those character builders of long ago, who sacrificed for it, who wasted their substance on it, whose hearts and lives were devoted to its care and development? Shall we not find it interesting to talk of them to our young men? Shall we not gather inspiration from their struggles?

Of those who came to this country to practice  
**Pioneers** dentistry, we find the names of John Wolfendale,  
**of** 1766; Isaac Greenwood, 1770; Joseph Lamaire,  
**Dentistry.** 1778; James Gardette, 1784; Dr. Whitelock, 1784.  
 Josiah Flagg and Dr. John Greenwood were Ameri-

can born and received their instruction from those who brought their knowledge from across the waters.

The records which these men made indicate more than the ordinary attainments of that period; their methods when measured by our present standards become, to say the least, interesting; their handbills and advertisements being laughable in the extreme; and yet, these lives were the professional patterns set before those who first conceived the idea of separate and independent institutions for dentistry, those who first established social and professional relations between dentists, who first published a dental journal, who first organized a dental college.

Until the time of Horace Hayden, we have no record of an organized effort to elevate the calling of dentistry into a profession. It is true that individuals had rendered satisfactory services to most distinguished persons, as, for instance, the service of John Greenwood to the Father of our Country; but the testimony is that these services were appreciated as individual and transitory, and nowhere do we find any expression of the hope that practices were being originated and taught, which would result in benefactions to the human race, nor any record of the fact that men were being trained in practices which gave them title to rank with practitioners of medicine or law.

The history of Hayden's early life gives no promise of professional inspiration. Like the Carpenter's Son, his early walk was humble; he, being first a cabin boy, then an architect's apprentice and a student in a dental office; later, as he came to years of mature judgment, his thirst for knowledge led him deep into the mysteries of physiology, materia medica and surgery, until his career was ornamented by the bestowal of honorary degrees in medicine by both the University of Maryland and Jefferson College of Philadelphia. Becoming a writer and lecturer in a medical college, his ambition for his chosen calling prompted him to visit distant cities to urge upon those practicing dentistry to take the seals from off the doors of their laboratories, inviting them to become in the truest sense professional, by exhibiting a willingness to teach as well as practice. His efforts were finally rewarded by the organization here in your state of the first dental society of which we have any record; and to this day your state shows to the world, as a direct result of the inspiration of this prophet of old, the most perfect system of professional organization of which we have any knowledge. Fit sequel to a most sacred beginning!

A modest man, he did not seek the credit of achievement, and that credit has been all too tardily bestowed upon him. Many, who labored by his side and at his instigation, bore off the field richer sheaves than he, but his the satisfaction of seeing the work done and knowing that once systematically started it would be done for all time.

At home in Baltimore, he found a steady, energetic and ambitious

partner in Chapin A. Harris, with whose assistance he founded the Baltimore College of Dental Surgery and published the American Journal of Dental Science; and now, dentistry as a profession begins to breathe, to move and have her being; the sources of its life—the college, the journal, the society—make its existence secure.

“Sail on, O, Union strong and great.  
 Humanity with all its fears—  
 With all the hopes of future years  
 Is hanging breathless on thy fate.  
 Our hearts, our hopes are all with thee,  
 Our hearts, our hopes, our prayers, our tears,  
 Our faith triumphant o’er our fears,  
 Are all with thee—are all with thee.”

These factors in the birth of dentistry as a profession have never ceased to be factors in its growth and development; robbed of the inspiration derived from these sources, the practitioner of dentistry becomes like one who has separated himself from his home and kindred, and shut out from his life the kindly influence of such sentiments as patriotism and human kindness; a waif, a vagabond, and a by-word.

**Growth and Influence**      There was a time, and that but sixty years ago,  
    of      when men of great respectability flourished in the  
**Dental Societies.**      practice of dentistry without any of these influences.  
    Is not the contrast flattering? There are a few men  
    living today, who participated in the early struggles  
 of the organization known as the dental society. At first men were suspicious of the motives actuating each other. The existence of a cordial confidence was not to be expected in the beginning; it developed rapidly, however, and warm and lasting friendships were formed among men who had regarded each other with cold and critical eyes.

The success of the New York Society stimulated effort in other localities; the South, with Virginia as her representative, following quickly.

It is reasonable to believe that there was a great deal of correspondence between the leaders in those early days; indeed, a characteristic feature of dentistry then and now, shows itself in the familiarity of a few with the professional thought and events of the hour. The representative men in dentistry are writers, but visitors as well, and always have been. The very most that could have been expected from the dental society was realized. It became not only a means of education, but a source of inspiration, a place where the pace was set, where leaders in thought and action taught and demonstrated accepted and approved methods of prac-

tice, and held aloft the highest standard of professional morals and ethics. Indeed, we have reason to believe that much more was attempted in the earlier days in the way of controlling the conduct of members by the vote of the society. Witness the action of the first society which attempted to discipline its members for using amalgam.

The dental society has always exercised a helpful influence upon young and inexperienced practitioners, restraining characteristic impulses, cultivating and developing love of order and decent living; so that in a measure they became a necessity to localities, a means of protection, as well as a source of professional profit. If we find in a town or section no society, we may expect to find jealousies, envy, slanders, and all manner of bitterness; but all this has been known to clear away like smoke before the wind by the formation of a society.

In 1859, about twenty years of professional life having developed a lusty, stalwart youngster dentistry, a convention was called, again in your State, at Niagara Falls, to consider the formation of a central society, which should be in a measure national. There began the life of the American Dental Association. It became a delegate body, receiving representatives from local organizations for temporary membership. We note the names of Alport, Atkinson and Taft among the leaders of the movement. About ten years later the Southern Dental Association was formed at Atlanta. This was intended to be the central organization for that section, and we note among its organizers the names of W. H. Morgan, James S. Knapp and W. T. Arrington.

Who shall say what has been the influence of these two bodies upon dentistry—how much of its life has been developed through impulses generated in them? Dentistry in America today leads the world, because American dentists have been teachers. Of what man in our ranks can it be said, that he holds his knowledge, his skill, as men do secrets in trade? Is it not rather the fact that nothing brings greater joy to the clever and skilful among us than to have a message or method to give to our brethren? Secrets and secret-mongers are here despised. Sixty years ago it was not uncommon for those who entered the dental office or laboratory as assistants, to be compelled to swear that they would never reveal the secrets there imparted.

A little flight of time, not the span of a man's life and empiricism, quackery and commercial spirit give place to that broader spirit of humanity and liberality, which must always be the guiding principle of that which claims a place among the learned professions.

Who was the man strong enough to set this example for that which we now believe to be right?

Who but Horace H. Hayden?

Is not Carlyle again proved true in saying, "The history of a nation is found in the biographies of her great men?"

"God give us men! A time like this demands  
Strong minds, great hearts, true faith and ready hands."

In 1897 the American and Southern Associations coalesced to form the National Dental Association. Many regrets have been uttered that these organizations, which have been so helpful should be supplanted, and it is barely possible that to some it will always seem a great mistake. Let not the aroma of the pleasant past dull our senses to the signs of a better day now dawning. These bodies only fulfilled the law of nature by dying; they gave birth to an association whose possibilities for good are far more extended. We think we can see in the near future this association levying tribute from every dental organization in this country, and publishing a journal of its proceedings, which shall be the official organ of the dental profession. Commissions will be appointed to adjust mooted questions of practice, laws will be unified, disputes between organizations settled, money will be appropriated to foster original research, and much more of untold advantage to us as a profession will be accomplished by the authority of this one supreme body, which would have been impossible under the auspices of either of the former co-ordinate associations. We hail then the need of the hour; may we loyally support it—the National Dental Association! In it we see the culmination of all the past years of professional work, and through it we hope and expect to see dentistry speedily advance to a position above the reproach and chiding of even such a devoted and dutiful son as Dr. Williams.

America is a new country, and its educational opportunities until now have been meagre. The average young men have not been students nor college bred; but, with the rapid development of opportunities for general education of today, we have men entering our profession who are trained students and who, from congeniality—if from no other cause—will become specialists, investigators, and, let us hope, scientists.

In the transition from one state to another, it is often difficult to accommodate ourselves to new conditions. We miss the customary and the old, but events crowd on us, whether we will or not; let us point the way and not be swept out of our places by the onward march.

Shall we regard the thousands of young men who are yearly entering our profession, as rivals, or shall we welcome them as co-laborers? May they not have a message for us, in exchange for ours? The future of our beloved profession is bound up in this. Shall we dispute their rights and yield only when old, broken and trampled under foot? Or,

shall we direct this youthful energy and enthusiasm into channels which will profit all concerned?

In a short time dentists will be so plentiful that one or more can afford occasionally to wear out his eyes with the microscope for the chance of fame. Our colleges are improving their equipment, and young men are being trained in the laboratory for investigation. Be assured this will make its impression in the near future.

Let us, then, thank God and take courage. Let us catch an inspiration from the lives of the great who have gone before, and finally, let us not forget "the assembling of ourselves together," where the good old-fashioned brotherly love is trained and cultivated into professional spirit.

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## Dental Education.

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By J. H. CROSSLAND, D.D.S., Montgomery, Ala.

*Read before the Alabama Dental Association.*

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Mindful of the reciprocal relations which constitute the basic principle of our organization, I believe that no one of us could find justification for declining to bring to the shrine of his high professional duty an offering precisely commensurate with the extent of his abilities, regardless of their limitations; hence the acceptance of the appointment as a member of the committee on "Dental Education."

What is education? Broadly speaking it is the product of experience. Derived from the Latin *e* out and *ducere* to draw, the word means, technically, "The art of drawing out or developing the faculties—of training human beings in the functions for which they are destined."

Owing to the great diversity of sentiment and sensibilities and capabilities and environment with which human beings are endowed and influenced, and especially to the great variety of activities which have naturally proceeded therefrom, the accumulated store of knowledge, even from the infancy of civilization, has been beyond the capacity of any one mind. And should we attempt to train the faculties of every individual in all the departments of education, bewilderment and failure in all would be the reward of our "avarice." And, conversely the neglect of most of the



faculties that the few may be abnormally developed can but cruelly and hopelessly dwarf and mutilate the mentality of the victim of such an illiberal procedure. No elaborate course of reasoning is requisite to the conclusion that somewhere between these extremes is the happy medium which must vary in accordance with the activities and capabilities of the individual under consideration.

**Specialism  
and  
Specialists.**

We live in an age of specialism, indeed, in which the tendency in this direction has begun to threaten seriously the welfare of the individual—not alone as an integral part of society, but even as a follower of his calling in life. And the years that are to come will bring such an increase in the general fund of knowledge and discoveries that, notwithstanding the accompanying easier methods of acquisition, specialties will multiply. The brevity of the period of active life in the individual dispels the wild dream of a complete general education. So permit the statement here that we do not deprecate legitimate specialism. “He who ascertains the special gift or power with which nature has endowed him, and makes it the boundary of a definite field of thought and action,” is a true specialist. “This gift is that in man which we are wont to call his forte—his strong point. It is that in which his main strength lies,” and is the result of his organization, or the mode in which the mind incarnates itself in him. Men have attempted to become specialists without consulting the native bents of their characters, but the solicitations of an age grown unstable by its great resources is so urgent and so varied that few indeed have the strength to pursue unswervingly a limited vocation unless they are impelled by the dictates of nature. Every character is stamped by its own peculiar bent. By following that bent or tendency man places himself under the glorious tutelage of nature. But nature is not always indulgent and when, through stubbornness or ignorance, one refuses to recognize her power, she often plays the transgressor many a merciless trick, and finally in disgust, abandons him to his own futile efforts. The true specialist respects nature and nature respects him. But specialism narrows as well as deepens the channels of the mind; and a firm, broad foundation of general knowledge and culture should precede the adoption of a specialty. It is our intention that the foregoing may have three degrees of application to our subject:

First, we consider in a broad sense, that a calling in life is a specialty. Second, that the same limitations which have led to the aforesaid are causing the subdivisions or specialties in dentistry. Third, science is the basis of all true art. The art of dentistry has so far outgrown the science that it must halt, as it were, and await the advance of its more dignified companion.

**Teachers  
Should be Trained  
to Teach.**

If there is a science and an art in which dentistry has an interest almost equal to that which it has in the science and the art of dentistry itself, it is the science and the art of teaching. That in acquiring knowledge the mind follows certain processes, and that any one imparting it should do so in harmony with these processes, are truths which seem sufficiently obvious; and have been sufficiently extensive to secure, in Scotland and America, normal schools, so named from the Latin *norma*, a rule, and their prototypes in the "Training Colleges" of England, the seminaries of Germany, and similar institutions in Switzerland, and Italy and Russia, the city of Paris boasting one for the training of teachers in the higher branches for colleges and academies. The teachings of such men as Plato and Quintilian in ancient times, and of Rousseau and Milton in more modern times, have led to the establishment of these institutions. Is there such an institution in the world as a normal school for the training of those who are to become our teachers in the great healing art and its specialties? How many of our teachers of dentistry today, with all of our boasted progress, have made any extended study of the human mind, as do those who pursue the study of teaching in the systematic way referred to above? If we mistake not, such do not exist unless as exceptions to the rule.

The empiricism which all too frequently characterizes the methods of practice of dentistry today characterizes also the methods of teaching it. If a liberal education is a requisite to qualification for any calling to which man devotes his energies, that of him who would gratify the exalted ambition to lead the young idea properly and into the channels most appropriate, demands it beyond question. And he who would assume the lofty position of instructor in dentistry certainly is no exception to this. By a liberal education as the term is used in common parlance, but also as applied to the great art of healing.

The individual who, for causes not always in his control, but often so, is coarse and illiterate, does not belong to the rank and file alone but is all too often found within prosaic halls which should be made classic by his presence, engaged in the process of manufacturing "tooth carpenters"; some from material whence manual laborers should grow, others from that whence stomatologists should develop; and in blissful ignorance of a possibility of distinction. In the great problem of production the prime requisites are material and manipulator. Sandstone was not selected from which to chisel the forms of Venus de Milo or Appolo Belvidere; nor was a cobbler commissioned to form their classic beauties.

Supply and demand bear the same relations in the affairs of dentistry as in the more strictly commercial affairs of men. In advising the

young aspirant for a degree in our faculty, pay due regard—high regard to his fitness, mentally as well as morally, and above all else, advise no illiterate to seek admission to the circle. And when one whom you feel would honor his calling and himself seeks enlightenment as to respective merits of institutions send him where the A.M., M.D., D.D.S., or his equal will prepare his curriculum and guide the course of his researches. Thus, and only thus, can the demand that is but the forerunner of the supply, have its origin and growth. And abreast with the growth of liberality and breadth and depth will advance with axiomatic certainty, the progress of dentistry toward its deserved position in the estimate of men. Would every practitioner of dentistry gaze more frequently, more persistently, more earnestly down the classic vistas of learning, and grapple more vigorously, more determinedly and more continuously with the routine and the problems of science, and nourish with more pride his love of art, and cultivate his heart and manner equally with his mind and hand, dentistry would bear herself more proudly among the callings of men; and among the childhood memories of the patient of the future would remain less frequently the rubric of the forcep.





## **Second District Dental Society.**

### **March Meeting.**

A regular meeting of the Second District Dental Society of the State of New York, was held at the residence of Dr. F. O. Kraemer, 225 Schermerhorn street, Brooklyn, on Monday evening, March 13, 1899.

The meeting was called to order at 8 o'clock by the president, Dr. Kraemer, and the minutes of the previous meeting read and approved.

The paper of the evening was read by Dr. B. Holly Smith, of Baltimore, subject, "Professional Inspiration; Its Source and Sequel."

### **Discussion.**

I have listened to the paper with great satisfaction and profit, as no doubt all of you have. The contrasts noted in the paper between the ideas prevalent in our profession now, and forty or fifty years ago, appealed to me quite strongly, because when I first entered the office of Dr. Newell as a student, I remember that the neighboring practitioners in the city of New Brunswick, although there were not many of them, were all jealous of each other, and no one ever thought of visiting his neighbor or communicating to another dentist any idea that he had originated or developed. The spirit of liberality which resulted in forming dental societies is one which has exerted a greater influence in raising the standard of practice, and raising the recognition among the community of dentists as professional men, than any other one thing.

Allusion has been made to the formation of the American Dental Association at Niagara Falls in 1859. I was there at that time. I remember how timid and diffident I was to meet men there of whom I had read in the journals, but one was not there long before he saw that there was

a wholesome spirit of fraternity—that the men assembled there were not there for selfish purposes, but to give the benefit of their acquirements to others. I think that meeting did more to encourage and stimulate me than any other thing in my career, and so I always listen to any paper that touches on this subject, and touches upon it with such illuminating grace as the paper of Dr. Smith, with the greatest satisfaction.

The thing that appealed most to me was the fact  
**Dr. Brewster.** that was so strongly emphasized—the preparation of a student for his future life. If that preparation is all that it ought to be, his career is made comparatively easy. How many sitting around this room now will feel the force of what I say. How many will wish they had had instruction in some particular point that would have led them up to a place where they now would feel secure, that they would not now feel embarrassed, and would have a broader and more general knowledge.

I can say nothing more than to commend those who have had the making of the laws in this state, and some of the other states that prepare for a man the way in which he shall go, so that at last when he shall bring himself before the community in which he lives and ask for their patronage he may feel within himself the power that he is fairly competent to meet the exigencies that come to every man in every day life; and also that the community may feel in him a confidence that he is able to cope with the ordinary events that come along in ordinary life.

It gives me great pleasure to be here tonight and  
**Dr. Chas. Meeker.** to have listened to Dr. Smith. Dr. Smith is known as the “poet dentist of Baltimore.” Everything he writes breathes of sentiment and poetry, and it is all towards the upbuilding and the elevation of the dentist.

I joined a society when I had been in practice three months, and I say, show me a man that is a good, consistent member of a society and comes to the meetings, and I will show you a good dentist always, and a good citizen. He is always striving to do better, and I believe in the organization of societies. I say to a young man, “Join a society,” and if I have a young man working for me I always bring him to the meetings; I take him to New York, I insist upon his going, because I know that I am laying the foundation for a good dentist in after life, a man who can practice honestly and conscientiously, and do the best for his patients.

I know that you all are aware that we had one little incident in our New Jersey society last year that cast somewhat of a shadow over us, but it all goes to prove that our society and each one of its members, has always felt that each one was honest.

My thoughts run back to the opportunities there  
**Dr. Jarvie.** were for dental education when I first commenced the study of dentistry in this city. I was then fifteen years of age. I was regularly indentured, and papers were drawn up. Part of the agreement was that I was to serve this dentist for the first eighteen months without any salary; then I was to get the munificent sum of one dollar per week for one year, two dollars per week the next year, and so on, until when I was twenty-one I was to get about three dollars a week. There were three dental colleges in the United States at that time.

I afterwards went to Boston and became a student there. Dr. Joshua Tucker was one of my instructors—a very able man to have as a preceptor. I learned things under him which at that time seemed to me rather slow and pokey, and a little bit old fashioned, but they have been of very great service to me ever since. At that time in the dental colleges, attendance at but two sessions was required to graduate and the sessions were very short, not more than four or five months. The extreme length of time to graduate was ten months.

As time went on, and the range of the knowledge of dentistry increased, it required a longer time to teach the principles and practice in the dental colleges, and the terms were extended, until finally, as the number of colleges also increased, and the number of students and the demands upon the professor's time and abilities also, the number of sessions was extended to three, and the length of each one was extended up to the present time, when, as you know, it requires three years' attendance at a dental college, and I think seven months at each session with opportunities to attend summer sessions, so that now a student can remain in the college receiving instruction for twelve months in the year. Under the leadership of this state the standard of education for matriculation has increased until, within two years it will require the same preliminary education to enter a dental college that it does to enter a classical college or a medical college, and in the very near future the men entering the dental profession will be broadly educated men. It will not do for New York to have a higher standard than any other state, and the others will raise their standards gradually until all over the country there will be just as high a standard as is required in New York State today.

Education has advanced and liberality has advanced since the organization of societies. For all that is done for each one of us today, as individuals, we have to thank the societies. Not one in this room would be the man he is today had he not attended the meetings of dental societies. I, for one, was very glad to see a National Association organized on a little different foundation from those that we had in the past. I would like to see it organized on still higher grounds; I would like to see membership

in the National Dental Association in this country the highest honor that could be attained by any member in the profession, and that membership in that society could not be attained except by men who had established their ability and their right to membership in such an organization.

We sometimes hear about the mercantile spirit in dentistry. It exists, and it will exist, but I think that there is a better ethical standard in dentistry today than there has ever been. I am one who thoroughly believes in the advancing upward of this profession. There are not more dishonorable men or more charlatans in the dental profession than in the legal or medical profession; you see them in all. Education will not make an honest man of one who is naturally dishonest, and we will always have that to contend with. I believe in the advancement of the profession from an educational standpoint, from a liberal standpoint, and from any and every standpoint by which we can feel that we are able to minister to the wants of our patients.

I believe the time is not far distant when the greatest portion of our treatment will be preventive treatment. Rather than repairing the ravages of decay that has already occurred, we will be taking methods to prevent its occurrence. I think that this is spoken of by Dr. Williams and by others; all tend in that direction. If we know absolutely the cause of a disease we are the better fitted to combat it; as soon as a want is felt, that want is very soon supplied, and I do believe we will have an anti-septic or an antidote for any germs that may be found as the cause of the decay of the teeth.

There is one other thought that I had in my mind, and that is, I would like to see some of our young men who are entering the dental schools, or who are graduated from our dental schools, devote themselves to scientific research and study. The great temptation for the young men today is a desire to make money. They want to get at the operating chair as quickly as possible and make as many dollars as they can; but if the instructors in our dental colleges would try to infuse an ambition to become famed as having discovered some great scientific truth, that would help mankind in its fight against ills, they would earn more in fame than they ever would get in money at the operating chair. That is a line of work that we need to have taken up by our intelligent, earnest and ambitious young men. I do not think it would be so very trying upon the eyes necessarily. The great strain upon the nervous system is that after a man has worked hard, done his day's work at the chair or in the laboratory, then he commences to delve with his books and his microscope, burning the midnight oil. It is this that saps his vitality and destroys his eyesight, but if means could be provided

**Laboratory  
for Scientific Research  
Suggested.**

whereby men could devote the ordinary number of hours per day to this research and leave operating at the chair alone, a man would live just as long in that sort of occupation as he would in any other. What I want to see started is a school or a laboratory provided with young men. It could be the easiest matter in the world to provide all the money necessary—the trouble is to find the man. Dr. Kirk told me a short time ago that in their laboratory in Philadelphia, at the University, he would agree without any expense to any one, to furnish every facility as far as the laboratory and material are concerned. He could not agree to furnish money to support the young men, but he says his difficulty is to find the young men who are willing to devote themselves to that. He has plenty of bright young men, but their ambition runs in other directions. I do not see why this country cannot supply young men for scientific investigation, just as well as Germany or France, or other foreign countries.

Mr. President and Gentlemen:—It always gives me great pleasure to hear our friend, Dr. Smith, either talk or read, as he is always a poet. The thoughts always reach our hearts and enter our minds to improve and benefit us, and while he was reading his instructive and entertaining paper, I wondered what particular point would impress itself upon the mind of each individual listener before him. What would each individual carry home with him as the one pearl, the one bright particular thought of advantage?

I must confess two or three entered my mind. The thought that impressed me most thoroughly and deeply as he went along was the question that he asked: "What of the young men?" The old men do not count except for what they have done; to an old man everything is retrospective; to a young man everything is in the future. The title of his paper, if I may be allowed to digress a moment, was "Professional Inspiration; Its Source and Sequel." He has told us in beautiful language of the origin of the professional life of dentistry, the aim and object of every man who is imbued with the professional spirit. He has followed along this history for one hundred and twenty-five years of our profession. He has shown us its origin and its record, but its sequel he has not shown us. I doubt if any man can tonight see or impress upon us what its sequel is to be.

Professional inspiration, as I find it—that which is to inspire the young man to higher and nobler effort, is the height beyond, where he sees professional perfection, if it were possible; social equality, which I think will be possible; financial independence. These are the three things that inspire every man who goes into a professional calling. If it were not for these things that he has to look forward to, he would be as under a pall. He would lack the energy, the incentive to application and devotion to his professional work that every man requires. He must have them, one and all. If he does have them, then we will yet have the man



who will achieve that trio of necessary blessing. He will reach that point where he will be in a position to endow those young men who are to come forward and devote their lives to original investigations for the benefit of the world at large.

Dr. Jarvie has asked why cannot America produce these men, as well as the older countries. I think it is a financial question, and the burden seems to be a little heavier here than in the eastern countries. The young man feels the necessity as soon as he gets out of college of doing something to lighten the very heavy financial burden resting on his shoulders as he comes from the college door. God knows if any man felt it as heavily as I did, he could think of nothing else but the operating chair and the dollar. He must put himself in a position to advance himself. For that reason though his desire be ever so strong to enter this field of investigation for fame, he cannot do it until he has elevated himself financially to a position where he can afford to do it. There are few men who find that financial recompense in a long life of dental practice. How many men have made a fortune in that way which would enable them to retire from the professional and devote themselves to scientific investigation?

Consequently, the young man cannot come to the front. He must be taken care of by somebody else. The time is coming. Dr. Smith has shown us how we have advanced from the low level where each man looked upon the other askance, with a cold and cruel eye. If he did anything of value he did not give it to his brother, but he sold it to his brother. We have a few men like that in the profession today, but we have also men of liberality, and this liberality is due entirely to our professional development through colleges, associations, and local and state associations as we meet now. This thing is bound to develop; the age is going on faster and faster, and the time is not far distant, I think, when with the raising of the standard, putting the standard on the level with the medical profession, every man must enter on the same level. Our medical brethren are on a social equality each and every man, even the poor doctor. From a social standpoint the dentist to-day does not stand where he ought to stand.

What shall we do with the young man? Shall we receive him as a brother, or shall we look upon him as a dependent? Shall we look upon him askance, or give him a helping hand along the road? I do not believe, gentlemen, we are gaining in numbers and increasing so rapidly that there is need of any elimination for any gentlemen practicing dentistry. You must not forget that while the colleges are turning out many new members, there are a good many who are retiring, there are a good many dropping off continuously, and if you will follow the census of the dental profession for the last twenty years you will find that the increase has been

comparatively very slight. Twenty years ago there were in America 12,000 or 13,000 dentists; there are now 20,000 or 21,000, and the colleges have been working very hard; they are doing their best to turn out a large number. They are disinterested; the time was when they were not. It is owing to the energy of some of the gentlemen here present, who saw the eagerness or the necessity for the almighty dollar that actuated a few poor colleges; they established examining boards, and the result has been a broadening of the minds of the dental faculties, and today we have a professional spirit throughout the land—a fellowship that has never existed to the extent that it does today. I believe it will go on until the dentist is where he may be a social equal with the other members of the liberal professions, and also have the necessary finances to maintain that position.

While I know the Brooklyn society is not responsible for anything said by a Jerseyman, I want to enter a mild disclaimer. I know that my friends can talk about me to myself where it could not do any harm, but to make a public announcement that I am a poet, reminds me of an incident in the life of Edwin Booth. Mr. Booth never liked Mr. Wallack, I am told. Mr. Wallack's somewhat strong commercialism was an offence to the exquisite professionalism of Mr. Booth, and when you had a meeting here once among your actors for the purpose of establishing a fund for the benefit of actors, Mr. Booth came in a little late. Mr. Wallack had the floor, and yielding his place immediately when Mr. Booth appeared, said he would be glad to hear from him. Mr. Booth said that so far as money was concerned they might call upon him for a subscription, but that he was reminded of a dream he had had the night before, and asked permission to tell it. He said, "I dreamed that I went up to the gate of Heaven and knocked, and St. Peter came. I asked for admission. He said, 'What were you while on earth?' 'Why,' I replied, 'I was an actor.' 'Well, there are no actors in Heaven, sir,' said St. Peter and shut the gate. Dejected, he turned down the road, and he met a gaily bedecked tally-ho coach, with several people riding on it, and in the driver's seat was Mr. Lester Wallack. He swept by, and tally-ho and all passed into Heaven. Mr. Booth walked back, and knocking at the door he asked, 'Who was that who went in?' 'Why, that was Mr. Lester Wallack.' 'Well, didn't you tell me that no actors were allowed in Heaven?' The answer was, 'Mr. Lester Wallack was no actor.'" And so I say of Baltimore—there are no poets in Baltimore, and I emphatically say, I am not a poet.

The emphasis which I most particularly desired should be made in the little message which I attempted to bring in a feeble and broken way, was this: that there is no excuse for discouragement. There is no excuse for any man who holds his head up in the dental profession to refuse to re-

sent the charge that he has not made a fair and decent showing for the chance he has had. I have talked with medical men, and I deny the statement that my brother made as to social equality. Social equality means worldly advantages. A dentist who is educated stands and ranks as well in his community as medical men. The fact that medical men have had medical training gives the medical profession more prestige, more power, more place, but I will compare notes with the medical profession today, and I believe I will not have a very hard battle to fight. I believe that the men in dentistry who have deserved social equality have been accorded it, and I do not believe Dr. Luckey is right. I have talked with medical men, and they have told me they thought the progress of dentistry as a profession was phenomenal. It was unreasonable to expect that such steps as have been recorded should have been made. Three things are responsible for this—the college, the journal and the society. The practitioners who studied dentistry in colleges are in the minority; the colleges cannot do it alone. The college is only the kindergarten; it is only the start. You may inspire a man, you may strengthen him, you may help him, but you cannot make him. He comes to you and you ought to see to it that the men who leave our doors are directed when they come to you. Do not let them turn astray. Young Men's Christian Associations and barrooms are always open. Why should not you invite them to your meetings? A man may be careless, may drift off by accident, be employed by a charlatan or quack, but if he had the resolution and support that you would give him, it would not happen.

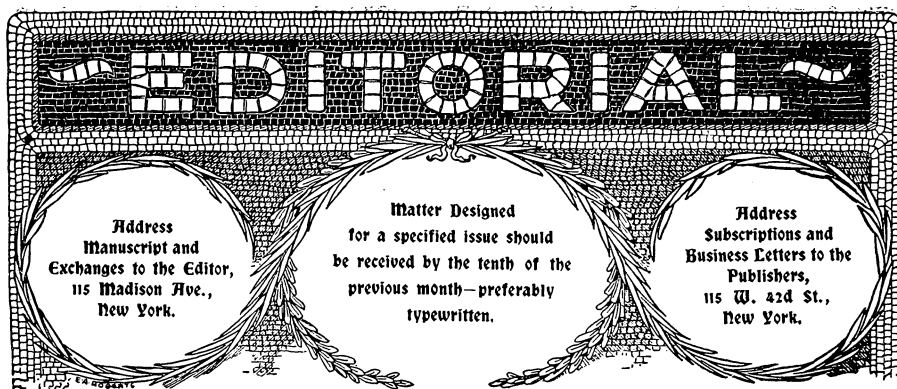
In speaking of the duty the members of the profession owe to young men who are leaving the colleges and entering upon that profession—to try and induce them to come in and be under the influence of such organizations as this, I would say that for a number of years while I was censor of this district, it required a certificate from me before young men could register and practice in this district; not a young man ever came to me for a certificate but what I invited him to come to this Second District Society—not only invited him to come, but urged him to come, again and again, and I have done everything in my power to aid them. I thoroughly believe in what Dr. Smith tries to impress upon you, the duty that every one owes to the young men starting in their professional career in this district.

We keep a list just to send them invitations, and  
**The President.** keeping them in the hope that some of them will come.

Pardon me if I add just a few words more. The  
**Dr. Smith.** title of my paper may not have meant very much to any of you. I have received, since I have been here in your city, an inspiration from a little description of the workings of

your society, and I shall go home feeling stronger in my professional standing, and with a high regard for your section and its professional organization, because I have heard that in your district you do not have any bickering or quarreling at all, because it is the Second District Society, and because you have so thoroughly tried to organize your section. I feel it is a pleasure for me to have had this revelation.





## Etiological Problems in Pyorrhoea Alveolaris.

Scientific finality must ever rest upon logical deductions from well authenticated clinical data. It is, therefore, wise, rather than otherwise, for men to adopt slowly radical views advanced with insufficient evidence. Insufficient evidence may be of two kinds; evidence which does not sustain the deduction which it is advanced to uphold; and evidence perhaps valid, but offered in an unconvincing manner. A specimen of this latter will be quoted presently.

In the April issue of the *Dental Review* there is reported a most interesting discussion of a paper read by Dr. M. L. Rhein, before the Chicago Dental Society, in the course of which the disputants demanded more proof in several important contentions of the author. The purpose of this editorial is to place on record, testimony which may contribute towards the elucidation of the complex problems connected with the etiology of pyorrhoea alveolaris.

The discussion was opened by Dr. A. W. Harlan, whose views are always worthy of serious consideration and respect. In the course of his remarks he said:

**Pyorrhoea Not Always Cured by Extraction.**

“Did not the author say that he challenged the position of those men who said that the extraction of the teeth cured the disease? \* \* \* There are no cases on record until the author of the paper reports them, where the mucous membrane and the tissues covering the jaw do not heal symmetrically after the extraction of so-called pyorrhoeal teeth.”

In the department of "Contemporaneous Literature" in this issue will be found an article, reprinted from the *British Medical Journal*, entitled "Neurotic Ulcers of the Mouth." The author, W. Knowsley Sibley, M.D., graphically describes three cases, and while no mention is made of pyorrhoea alveolaris, there can be little doubt to the dental mind that this disease was present in the first case, and probably in the third, since in both cases cure was attempted by extraction of the teeth. Significant passages have been italicised and record the fact that the extraction did not ameliorate the condition. This paper is quoted here because the evidence, which seems strong, comes from the unbiased mind of a medical observer, who corroborates the claims of Dr. Rhein without seemingly discussing pyorrhoea at all. It is worthy of note that Dr. Sibley calls these "Neurotic Ulcers," while Dr. Talbot considers that neurotic disturbances are a factor in the formation of pyorrhoea.

The following is a record of a personal experience, and consequently may be considered as the history of a case from the standpoint of a dental observer.

The patient was a married woman about seventy years of age. When first examined the gingivae between several of the upper teeth were inflamed, much swollen, bluish red in color, with a dry, glistening surface. Pus escaped from pockets around the teeth upon slight pressure, and both salivary and serumal deposits were present. The chief cause of anxiety was an upper lateral incision. The gum had receded so as to disclose half of the root, and the gum margins and gingivae were badly hypertrophied, exhibiting grape-like masses, the surfaces of which showed a tendency to break down into ulcerations. Pus escaped freely from the pockets. The medical attendant, a homeopath, had advised extraction—and the patient was willing to have the tooth removed. It seemed, however, a hazardous procedure, in that a more extensive wound would thus be present, needing care to prevent further and more serious infection, there being a somewhat indefinite history of cancer in her family, with a slight suspicion in regard to herself in connection with an ailment of the stomach. The mouth was treated without removal of the tooth, and in the course of two months had so far improved that there seemed but little danger to be apprehended from extraction, and as the patient was annoyed by the loose and badly elongated member, it was extracted. A

month later all other parts of the mouth had healed, but the socket of the incisor was still unfilled by new tissue, and the gums were still somewhat turgid and threatening. The patient then left the city for the summer. In December of the same year a recurrence required further treatment. The gums were found to be in a worse condition than before in both upper and lower jaw, except about the site of the incisor, which while not as bad as when first seen, nevertheless was the worst place in the mouth. Treatment covered several months, with apparently no improvement, when suddenly a practical cure was effected in a somewhat peculiar manner.

Throughout the care of this case, the patient had been advised that she was not receiving proper nourishment, but because of her stomach trouble she persisted in believing that she could not digest anything but broths and gruels, and no urging could persuade her to adopt a diet of solid food, or even of proper tonics. A fakir about this time set up in a neighboring hall, giving daily exhibitions of his ability to cure all human ailments, and the patient decided to visit him, with the result that he demanded a large fee in advance and strict obedience to directions. Guided by superstition she did what she had declined to do either for her medical or for her dental adviser. She adopted a more nutritious diet and placed herself in the hands of a competent *masseur*, with the result that in two months the mouth appeared to be entirely well, except at the site of the incisor. All the other gingivae had shrunk to normal dimensions, and had resumed healthy firmness and appearance, but the socket of the incisor was still only partially closed, while the gums remained turgid.

These facts can be attested by the family physician, the homeopath, by an allopathic surgeon who saw the case, by the dental adviser, and by another dentist who was called in consultation.

In the same discussion Dr. Talbot, whose logic is always *étiological*, is quoted as having said in one place: "That pyorrhoea starts at the gingival border there can be no question." In another that: "In every case the disease always starts with a simple gingivitis." Dr. J. D. Patterson expressed similar views, using the following language:

**Pyorrhoea**  
**Originating at the**  
**Apex.**

"I believe, with Dr. Talbot, that pyorrhoea always commences with some lesion of the gingival margin. I have challenged Drs. Pierce, Kirk

and others, who claim opposite, and I challenge Dr. Rhein now, to present to any considerable body of dentists at any clinic cases demonstrating the truth of the assertions made, that on account of constitutional disorders the deposits first appear on the apical portion of the root. They have not so far taken up the challenge. They claim to have seen these deposits upon the apical territory with absolutely no lesions at the gingival border. I have seen cases that have been presented at my office by other dentists where they said that such was the case, but on closely looking into the history of the cases I would find that at another time there was a lesion which had afterward healed, and I think they had made a mistake. The position of Dr. Rhein cannot be substantiated by any ratiocination supported by science. I do not believe it for one moment."

This statement by Dr. Patterson is worthy of analysis. He challenges men to prove a theory in a specified manner, and announces that the challenge has not been accepted. But could it be? If it is necessary, in order to sustain this theory, that a patient must be presented before a body of men, in whose mouth the fact could be substantiated, then proof is unattainable. It would be needful to present a patient, with a tooth apparently sound, or at least without gingival lesion, and then to extract the tooth and exhibit serumal calculus at the apex. Who is wise enough to diagnosticate such a condition prior to extraction? Presumably the exhibition of the tooth after extraction would not convince Dr. Patterson. But even supposing that this clinical demonstration could be made, would not Dr. Patterson claim that a previous lesion had existed? Then to satisfy such a skeptic would it not be required that the patient should be observed by a committee of dentists, from childhood up to the time when the calculus appeared at the apex? Seemingly something less than this should be acceptable in the way of evidence.

If deposits at the apex are shown, where no pockets existed at the time of extraction, is it not more reasonable to suppose that because of these deposits, pockets were developing, rather than that in spite of the deposits, pockets had healed? And lastly, are there no analagous conditions supported by science? Are calculi in the human being only found in tracts having a free opening to the outer surface of the body?

As an example of evidence unconvincingly offered we find in the same discussion a case reported by Dr. J. E. Nyman, who records the fact that believing a tooth to have a dead pulp because he found a swelling at the apex containing pus, he drilled into the tooth only to find the pulp alive, and he concludes by saying: "Thinking it over, I believe there was probably a formation of calcific deposit near the apex of the tooth."



This may be good evidence, and the doctor's deduction is probably correct, but as proof it is unconvincing because the presence of the deposit is merely a supposition.

A case analagous in its history, of which, however, more definite data was obtained, is herewith recorded.

The patient presented for treatment because of "mysterious pains." Examination disclosed the presence of pyorrhoea around three or four teeth, and treatment was begun. The patient, however, finding that no special attention was given to a first upper molar, declared his belief that it was the chief offender. He had shortly before suffered pain from

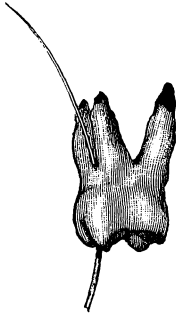


Fig I.



Fig II.

that tooth with soreness near the root, and had visited a dentist, who essayed to relieve him by extirpating the pulp. This at the time stopped the pain, which had now recurred. A temporary filling was removed disclosing a cotton dressing, and thorough examination showed that a false opening had been drilled through the tooth. Palliative treatment was used with such little effect, that after a few days, at the patient's earnest solicitation the tooth was removed. In view of the fact that other teeth were under treatment for pyorrhoea, it can be readily understood that a most careful examination was made for pockets about this tooth when seeking a cause for the pain, and the assertion that none existed should be accepted. The tooth is shown in Fig. I, the straw showing the false opening. A perfect cap of calcific deposits covered the palatal root at the apex, while a well defined deposit can be seen on one of the buccal roots. The pericementum was otherwise healthy, and even now the specimen shows plainly that the attachment at neck was undisturbed.

**Extreme Pyorrhoea  
without  
Deposits.**

There are very many who deny that genuine pyorrhoea can exist without the presence of deposits. Fig. 2 is from a molar taken from the mouth of a man suffering with gouty pyorrhoea, where we find that the disease has progressed until the roots have almost entirely disappeared, yet no deposits were present, either on this or on other affected teeth in the same mouth. In another case, a patient presented, because of a tooth which had suddenly loosened. This was a bicuspid. There was a free discharge of pus from well defined pockets about this and other teeth in the same mouth, and a probe disclosed the fact that the root was badly absorbed. Wishing to establish the record as evidence, the patient was sent to another dentist, with a note stating that here was a good example of extreme pyorrhoea without calculi, resulting in absorption of the root. He was asked to remove the tooth after a thorough examination, and did so. The root was in the same condition as is shown in Fig. 2. This is an authentic history which passed through careful examinations made by two dentists, and so should be accepted as evidence of some value.





# THE EDITOR'S CORNER

With malice  
toward none,  
with charity  
for all

Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.

In our last issue we published a method of removing living pulps painlessly by the employment of eucaine under pressure. Dr. Kells of New Orleans reports success with the method and Dr. H. M. Hill of St. Louis writes as follows:

**Painless  
Pulp Extirpation  
with Eucaine.**

"Regarding the suggestions in May issue, on painless extirpation of pulps, I submit below my experience with method as described.

In applying the eucaine as directed, I have been unusually successful in removing pulps in from two to four minutes after making the application. After the pulp was removed the hemorrhage has been profuse, which I do not consider a bad feature, as it allows the escape of any of the eucaine and alcohol that may have passed the apical foramen. To stop the hemorrhage, I used peroxide of hydrogen, cleansing the canal thoroughly, and then completely closing same with a suitable stopping, preferably orange wood points immersed in chlora-percha. I find that the action of the unvulcanized rubber is that of a piston and forces the solution of the eucaine thoroughly to the end of

the canal. I have used this where there was no opening to the pulp chamber, and by first thoroughly drying the cavity and applying the eucaine, the patient experienced no pain in making an opening.

I am very much gratified in the results I have obtained, and wish to thank the nameless author of the communication, as it certainly deserves the attention of the entire dental profession."

**Painless  
Pulp Extirpation  
with Cocaine.**

On the same subject Dr. O. L. Hertig, of Pittsburg, Pa., writes as follows:

"I have just read in your Editor's Corner the notice regarding painless pulp extirpation, and for the benefit of those who have not *already been initiated*, I would like very much to give my experience.

Some time ago a traveling "fakir" visited many dentists in this city and sold for \$25 to more of them than I would care to name, a process by which the dental pulp could be painlessly removed.

By chance Dr. Grant Mitchell, of this city, discovered the secret, and to him I am indebted for the formula and procedure. Here is the formula:

Formalin ..... 1 part.

Absolute alcohol..... 5 parts.

This is the procedure: Pulverize a few crystals of cocaine. Take the very smallest pellet of spunk or cotton; saturate it with the above solution, and gather upon it a little of the powdered cocaine. Apply this pellet directly to the pulp, and after carefully filling the cavity with unvulcanized rubber, produce gentle and continuous pressure with a ball burnisher in the direction of the exposure, increasing the force when absence of pain indicates progress of the obtunding influence. Keep up this process for several minutes, and the pulp chamber can be thoroughly opened and the pulp removed without any marked inconvenience to the patient, and, generally, absolutely without pain.

Do not cover the floor of the cavity with a large piece of spunk, as it will divert the pressure, and consequently impede the action of the cocaine. Nor is it necessary to use a large quantity of the solution or of the cocaine. The smallest quantity that can be handled is sufficient.

Direct application to the exposure, extreme care in placing the rubber (for there is danger of causing the pellet to slide from its position), patient manipulation of the ball burnisher, and the secret is out.

When Dr. Mitchell told me about the astonishing ease with which he could extirpate a pulp, I was incredulous, but never having seen, I believed, and ever since have been assiduously endeavoring to inform as many as possible about it.

I had ample opportunity in the infirmary of our dental college to thoroughly test this method, and to say that I was astonished at the re-

sults is putting it mildly. I think that I am not exaggerating when I say that I applied it, or saw it applied, one hundred and fifty times, and each time successfully. I kept a record of about thirty cases, but stopped making notes when I saw how uniform the results were. I have yet to see the pulp that will not yield to this method, provided the applications are properly made. Personally, I have no failures to record, but it is necessary in some cases to make several attempts before success is met. I have tried ether, chloroform, alcohol and water as vehicles for the cocaine, but must say that the formaldehyde solution is the one which yields astonishing results.

A few have complained that the solution made the gums sore, and in some cases caused considerable irritation. I have never experienced this, but it is possible that the formaldehyde may have such an effect. This, however, can be easily obviated by thorough cleansing and rinsing of the parts with the syringe and warm water afterward.

I think that a thorough trial of this method will convince and delight the most incredulous.

It is a singular fact that while some dentists **Registered Physicians** claim that they practice a "specialty of medicine" (especially those who delight to style themselves "stomatologists"), the dental laws throughout the country **May** make no exception in favor of regular physicians **Practice Dentistry.**

when directing that all who elect to practice dentistry must be licensed by the dental board. A test case has recently been tried in the State of Rhode Island, and the following decision of the Supreme Court of that State will be of interest to the dental profession generally and especially those engaged in upholding the various dental laws:

The court decides that any physician or surgeon who is registered under the State Board of Health is entitled to practice dentistry regardless of the question of registration with the State Board in Dentistry.

The law was tested by Horace P. Beck of Newport. He was indicted on a test case and the court decides the state's demurrer to his plea, overruling it and quashing the indictment, deciding that it was not the intention of the General Assembly to preclude physicians and surgeons from the practice of dentistry.

The indictment charges, in substance, that Beck did unlawfully practice dentistry in Newport in Aug. 1, 1898, without first having obtained a certificate from the Board of Registration and without first having caused his name and place of business to be registered with the Board.

The defendant filed a special plea in bar to the indictment, in which he set up, in brief, that at the time mentioned he held a certificate, in due form, from the State Board of Health that he was qualified to practice

medicine and surgery by reason of the possession by him of a diploma from a reputable and legally chartered college, indorsed by the Board of Health, by virtue of which he was qualified to practice medicine and surgery in all its branches upon all parts of the human body, including the teeth.

To this plea the Attorney General demurred on the ground that a certificate from the State Board of Health authorizing the defendant to practice medicine and surgery did not authorize him to practice dentistry without having first obtained a certificate from the Board of Registration in Dentistry, and otherwise qualifying himself to practice dentistry in accordance with the provisions of the General Laws.

Judge Tillinghast says that the evident purpose of the General Assembly in the passage of the act relating to the practice of dentistry was to protect the public from being imposed upon by persons who, while holding themselves out as competent to extract, clean or repair teeth, or replace them by artificial ones, yet from want of instruction and skill in the art were wholly unfit to perform such a delicate and highly important function. \* \* \*

A physician is one who practices the art of healing disease and of preserving health; a prescriber of remedies for sickness and disease. He is presumed to be familiar with the anatomy of the human body in its entirety; to understand the science of physiology and the laws of hygiene, and to be able to minister, as far as may be, to the relief of pain, disease and physical ailments of all sorts and kinds whatsoever. And while it is true that many physicians devote themselves entirely to some branch of the medical profession for which they have made special preparation, yet the fact that they have first qualified themselves generally for the practice of medicine and surgery in all its branches, and obtained a license to pursue such practice, must be held to entitle them to operate upon the teeth and jaw, as well as upon other parts of the human organism, unless the statute now under consideration clearly prohibits them.

By the strict terms of said statute, taken by itself, it doubtless does prohibit physicians, as well as all other persons, from practicing dentistry without first obtaining the required certificate, as the inhibition is general and no exception is made in favor of physicians. Said statute, however, should not, in our judgment, be taken by itself, but should be construed in connection with said chapter 165, which, while perhaps not strictly "*in pari materia*," yet deals with the general subject of the practice of medicine and surgery, and prescribes the qualifications requisite therefor. \* \* \*

Dentistry is now a well recognized branch of surgery. A dentist is a dental surgeon. He performs surgical operations upon the teeth and jaw, and, as incidental thereto, upon the flesh connected therewith. His sphere

of operations, then, as before intimated, is included in the larger one of the physician and surgeon.

**Memorial Tablet for Maryland University.** It is proposed to erect a Memorial Tablet in the University of Maryland as a tribute to the memory of Dr. Horace H. Hayden and Dr. Chapin A. Harris. A circular has been sent to the alumni of the dental department soliciting subscriptions, but the committee would undoubtedly welcome contributions from the entire profession. This is a worthy object and should meet a ready response from all, for in honoring these men we honor ourselves. By announcing to the world that we revere the names of the pioneers in our profession, we signalize the fact that our profession has reached a period of importance which must command respect.

The following extracts from the circular explain the movement:

"With the consent of the faculty, it is thought fitting that some recognition be made of the founders of scientific thought and dental education in this country.

"A movement has been inaugurated within this institution which appeals to every member of the dental profession, but more particularly to our alumni.

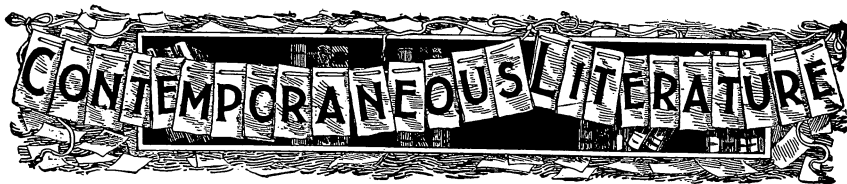
"It is proposed to erect in the University a memorial tablet to Dr. Horace H. Hayden and Dr. Chapin A. Harris, who are now justly accorded their position as the fathers of Dental Science

"An elaborate design for a mural tablet by Mr. Ernest W. Keyser, the American sculptor, embraces *alto relievo* busts of Drs. Hayden and Harris which were modelled in Paris from photographs furnished by their respective families. The portraiture of these life-size busts is remarkably faithful and the design has been accepted by the committee.

"Is it not a happy thought that the alumni of the school which was the first to encourage scientific dental instruction (dental lectures to medical students given by Dr. Hayden in this University, 1837), should be the first to place in its time honored halls, a memorial tablet, not only to Dr. Hayden, but also to his brilliant colaborator, Dr. Chapin A. Harris?

"This statement is made to the alumni, trusting to their liberality that the unquestioned services rendered by Drs. Hayden and Harris should receive its meed of recognition, and this tardy testimonial reach a successful consummation."

JOHN C. UHLER, M.D., D.D.S.,  
ISAAC H. DAVIS, M.D., D.D.S.,  
CLARENCE J. GRIEVES, D.D.S."



## Neurotic Ulcers of the Mouth (Stomatitis Neurotica Chronica).

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By W. KNOWSLEY SIBLEY, M.A., M.D., M.R.C.P., Assistant Physician, North-West London Hospital.

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In 1894, Jacobi of New York published in the Transactions of the Association of American Physicians a paper on the above subject, in which he described three cases that had come under his notice. He collected all the cases he could find in literature, namely, those reported by Kaposi, Kopp, Flatau, and Mandelstamm, and came to the conclusion "that such cases must be very rare."

The cases I am about to describe, I have met with during the last few years—two in private, and one in hospital practice, all being women. The patients were rather more of the hysteroid or neurotic than the insane type, as those described by Jacobi, two of whose cases were men. I am also inclined to believe that the disease is much commoner than he supposes, but that it is frequently overlooked. Such cases are often classed as simple catarrhal or dyspeptic ulcers, whereas I consider they are the direct result of a trophoneurosis, of which dyspepsia in some form or other may be, and often is, another expression.

**Case 1.** The first case is that of a widow, aged 74, who has had good general health. There is no known mental disease in the family. She had ten children before she was 35, and several miscarriages. Three children died from diphtheria, a fourth (13) from tuberculosis peritonitis, and another at 53 from carcinoma of the kidney. The other children are living and well. She has lived an extremely active life.

The first ulcer came on the gums in 1875 during great domestic trouble, and it lasted a few weeks. During a visit to the country the ulcer healed up. Six months later she came back to London, and the ulcers soon



returned. At this time she had a perfect set of teeth. *The ulcers usually came between the teeth*, and there was great difficulty in applying local applications to them.

During 1880 there were numerous ulcers on the tongue, gums, and buccal mucous membrane.

*During 1882 she had all her teeth extracted, but the ulcers continued as severe and as distressing as before.*

In 1883 the patient had an attack of eczema, after which she went to the Pyrenees, but the ulcers continued.

In 1884 the mouth remained in the same state of ulceration, and during the months of September and October she was yachting a good deal, but without any improvement.

During the whole of 1885 she had ulcers.

In 1886 she was free from ulcers from February to the middle of March; after this the disease was very severe, and continued so during the next four years. She was practically never free from ulceration.

In 1890, during October, November and December, during a visit to Scotland, the mouth was almost well.

In 1891 the ulcers continued and caused great pain, though the patient was yachting a good deal. She was at Malta for three months, but continued in great misery till December, 1893.

In January, 1894, she was free for a time while in London. During February, March and April the ulcers were moderate, but after this she suffered tortures while yachting and while at Braemar from May till November.

In October, 1894, she broke her leg while in Scotland, and during November and December she was free from ulcers. After this she went to Cannes and Grasse, and was away for eight months, during this time the mouth improved considerably.

In 1895 the ulcers were severe, though they were less painful during the winter months.

In March, 1896, an improvement again took place.

In 1897 ulcers were present during April, May and September.

In 1898 the patient had bad ulcers during January, May, July and September.

Thus it is seen that often for many weeks the patient's existence was made almost unbearable from ulcers which gave rise to the most excruciating pain; the tongue and often the lips were much inflamed and swollen, so that any movement either for speech or mastication was almost intolerable. Though naturally very active, she was often compelled for days together to shut herself up and see no one. The mucous membrane of the mouth and lips was very glossy, thin, and of a bluish tint, and covered

with cicatrices from old ulcers. The tongue was usually covered with a thick brown fur. There were no distinct dyspeptic symptoms.

**Case 2.** The second case is that of a single woman, aged 50, whose father died from the exhaustion of neuralgia, following herpes zoster; her mother died from carcinoma of the rectum. One sister died, at 45, from carcinoma, and another about the same age from tuberculous disease. The patient had pleurisy and bronchitis when eight years old, and has always been thin, pale, and rather delicate. She has a faint systolic mitral murmur, but there is no enlargement of the heart or anything unusual in its action. She suffers from constipation and dyspeptic symptoms. The urine is of low specific gravity, but otherwise normal. She suffers from headaches, hot and cold sensations, perspirations, flushings, and various pains. Recently the patient had an attack of erythema multiforme. She has had several attacks of hystero-mania (climacteric), lasting usually only a few days, occasionally two or three weeks, and gets perfectly well again. At the present time she presents all the signs of climacteric hysteria, and is very easily upset.

She has suffered from ulcers of the mouth at intervals almost as long as she can remember. She formerly suffered a great deal from conjunctivitis, and since this has been better the mouth has been worse. At times she is very irritable, and this is always accompanied or followed by a bad mouth. The attacks usually coincide with domestic worries. She develops a series of usually small but very painful greyish ulcers; sometimes only one, but more frequently two, three, or more at a time, or immediately following one another, on the sides of the tongue, or frequently beneath the tongue, either at the tip or sides, occasionally on the buccal mucous membrane, pharynx, palate, or mucosa of the lips; usually accompanied by more or less stomatitis, with general swelling of the organ, which is considerably coated with a thick pale fur, and associated with salivation and offensive breath, and slight enlargement of the submaxillary glands. This condition lasts from a few days to two or three weeks, and then for a few days or even weeks she is free from discomfort. A few years ago she generally had an outbreak of ulcers about the catamenial periods, and when these ceased or became irregular, hysterical symptoms accompanied by ulcers occurred at these times. On one occasion she lost the use of one arm for some hours.

When the mouth is very bad and the attack is a severe one, all movements of the tongue, either for speech, mastication, or deglutition, are extremely painful, and the patient frequently for days goes without taking proper nourishment.

It not infrequently happens that when the mouth is ulcerated there

is also some irritation of the conjunctiva, usually on one side, and very occasionally there has been slight superficial ulceration of the external genitalia, apparently commencing as a folliculitis.

**Case 3.** The third case is that of a widow, aged 64, whose father died at 70, and mother at 24 from consumption. The catamenia ceased about 53. It is stated that she had inflammation of the kidneys five years ago, and was in bed three weeks. She has had thirteen children, and a great deal of trouble during the last few years, and has had to work hard with the needle for her living. Three years ago (1896) she felt a small pimple at the tip of her tongue, which soon became an ulcer. She has had sores on the tip and sides of her tongue and gum at intervals ever since. The whole tongue is evenly coated with a thickish, grey fur. *Three years ago she had several teeth out, but the ulcers were not improved.* The gums and buccal mucosa are smooth, and rather glossy in appearance. She frequently complains of a burning sensation in different parts of the tongue, even when no obvious ulceration is present.

**Pathology.** This disease has usually been described as of the nature of pemphigus, although its distribution is sometimes suggestive of herpes. It, however, differs from pemphigus in its persistence through many years. Pemphigus may recur several times at intervals of a few weeks or months, but during the intervals it ceases altogether. With the onset of pemphigus there is usually a rise of temperature, but I have not observed this in my cases. An actual vesicle or bleb is not by any means common in this disease, but it generally commences as a crack or streak, or from the beginning as a small superficial bright red ulcer. Occasionally in the tongue it begins in an inflammatory localized thickening just beneath the mucous membrane, which rapidly breaks down and forms an ulcer, usually with a slough in the center and considerable inflammatory redness around. It sometimes happens that the ulceration is preceded for a day or two by a heaping up of the epithelium, often forming a pale, gelatinous-looking ridge fitting in the spaces between the teeth. At other times the ulcers are preceded by small gelatinous-looking bodies about the size of millet seeds, and occasionally by small vesicles; accompanying the ulcers is usually a considerable desquamating catarrh of the surface of the tongue. There is usually a good deal of burning sensation and great distress, accompanied by profuse salivation, and, if the ulcer is very indolent, with oedema of the parts around. If the lesion is situated in the mucous membrane of the lips, these may become so swollen as to hardly permit of the mouth being opened and the tongue protruded. I consider these ulcers are produced by a distinct trophoneurosis, and that they are quite different from the common catarrhal or dyspeptic ulcer.

**Etiology.** Mental trouble appears to be the cause of the ulcers in these subjects.

The first case was a woman who managed a large household, and maintained a very prominent position in society on a very limited income, which was an incessant cause of great anxiety to her. The ulceration commenced at a time of unusual mental strain, and continued through many years; in fact, during the whole period that the anxiety continued. Of recent years her position has been rather less embarrassing, and concurrently the ulceration has been less severe.

In the second case the patient's attacks almost always correspond with some more or less trivial worry, but one which affects her out of all proportion to its importance.

In the third case, trouble connected with money matters appears to have been the cause of the complaint.

**Treatment.** No medicinal treatment appears to give any very obvious result; possibly some nerve tonics may do indirectly, and local applications may relieve the distress and pain for the time, and assist in the more rapid healing of the sores. Better results have been obtained from painting the ulcers with tincture of iodine than the application of nitrate of silver. Many cases accompanied by severe pain are greatly relieved by cocaine and borax, carbolic or peroxide of hydrogen mouth washes. I believe in giving opium, especially at night, in moderate doses.

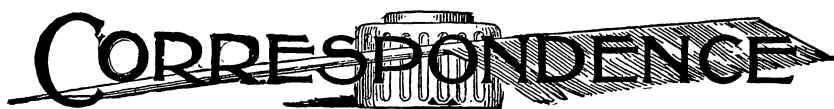
There is no doubt that the only curative treatment is complete removal from home and its accompanying worries, and it appears that mountain air is preferable. No good has been derived from sea voyages; in fact, the condition during them is sometimes worse.

Removal of the teeth has no beneficial effect except that the seat of the ulceration is more easily reached by local application.

**Literature.** Boer, *Archiv f. Dermatol. u. Syph.*, 1890. Kopp, Trophonurosis Hysterica (Trophoneurosen der Haut), *Inaug. Diss.*, Wurzburg, 1891. Flatau, T. S., Chronic Recurrent Herpes of the Oral Cavity, *Deut. med. Woch.*, 1891. Mandelstamm, B., Pemphigus of Buccal Mucous Membrane, *Berl. klin. Woch.*, 1891. Landgraf, *Berl. klin. Woch.*, 1891. Chiari, *Wein. klin. Woch.*, 1893. Jacobi, *Transactions of the Association of American Physicians*, vol. ix., 1894. Rosenbach, O., Vesiculating Affections of the Oral Mucous Membrane, *Deut. med. Woch.*, 1894.—*Brit. Med. Jour.*



# CORRESPONDENCE



## Furnaces.

Editor ITEMS OF INTEREST:

Dear Sir—In response to Dr. R. C. Brophy's criticism of my article in the April issue of your esteemed journal. I submit the following for the consideration of your worthy readers. I had very little reference to the baking of porcelain, knowing the delicacy of manipulation it requires; I expressly stated that the electric furnace is to be preferred to any other outfit. I repeat my statement, where such cannot be installed, an assayer's furnace (as named before), may be used with the same advantage as the higher priced gasolene furnaces sold by the dental dealers. The burner to heat any of these furnaces is of the same construction as the bicycle brasiers, which are made for either kerosene or gasolene, and cost about \$10. Where only occasionally a low fusing body, or aluminum casting is done, an outfit as just described is not needed, and Fletscher's little jeweler's crucible furnace, or one built after my description (use equal parts of crushed brick and fireclay throughout), which any dentist of ordinary mechanical skill can easily construct, will answer the purpose; it certainly does not require a \$100 outfit. The heat generated by the \$2.50 blow torch manufactured by the Invincible Mfg. Co., Wilmington, Ill., will be found sufficient to do the above work, and is many degrees higher than that of the \$6 plumber-torch obtainable through the dental dealers. This little burner will be found indispensable in every dental laboratory where better arrangements cannot be had; use directly on a little platinum muffle and you can easily melt any of the low fusing porcelains, and for this class of work you do not need any furnace at all, nor do you require it for your gold scrap melting. As to my previous statement concerning "the absolute failure" of cast aluminum especially direct to the teeth, I have further to add, that the brittleness of such plates is caused by the silicon that is formed in connection with the aluminum giving the latter a very crystalline character, which can easily be detected on its surface. For this reason the most desirable characteristics of aluminum are lost in the casting process, and Dr. R. C. Brophy's claims for his cast aluminosilver plates, of lightness, strength, durability, conductivity, compatibility

and equality to swedged plates are absurd. (See remarks on cast metal work in Dr. Brophy's catalogue). The addition of from 2 to 10 per cent of silver, as the doctor told me his plates contain, will render this alloy somewhat harder and allow of a higher polish, but will not overcome the brittleness. An alloy of 95 per cent of aluminum and 5 of silver will not show much difference in its characteristics from pure aluminum, but that it will impair its color. To add a larger percentage of silver would be still less advisable on account of the increase in weight, the liability of oxidation in mouth and the failure of the same to alloy itself to its full extent with the silver present, this over-percentage being only held in mechanical suspension. Now considering all those difficulties, which we have to encounter with cast aluminum, and a cast plate being devoid of any artistic design, even in the hands of the most skilful mechanics, I fail to see its advantage over a plate made by the swedging process, but that the latter manipulation requires more skill for which we are amply repaid, as such plates properly executed, render far better service, and being minus the drawbacks of cast aluminum, are unquestionably a better substitute for rubber, where for pecuniary reasons the nobler metals are excluded! Fully aware of my own failures with aluminum (for the reasons given), as well as of the failures of those experimenters, whose enthusiasm in this particular work incapacitates them from recognizing such, I have concluded to leave this work to those still willing to go on, only to find what I have said before, that cast aluminum work is an absolute failure. I am well aware that "the history of failures is the history of progress."

PAUL STEINBERG.

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### **Carbolic Acid After Extraction.**

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Editor ITEMS OF INTEREST:

DEAR SIR—In looking over January ITEMS OF INTEREST, I noticed an article by Arthur Scheuer, Zahnarzt, Teplitz, regarding the use of concentrated carbolic acid after extraction where there had been subsequent pains, and at the same time asking for reports from practitioners relative to their experience with the same.

I have used pure carbolic acid, as above, for the past twelve years—in fact, ever since I began the practice of my profession, and have never found anything to replace it. In that length of time I do not believe that I have extracted a single abscessed tooth or root but that I wiped out the socket thoroughly with this remedy, both in acute and chronic abscesses, not merely as a pain reliever, for it thoroughly breaks up the sac, if such

remains, or any remaining portion of it, and by its stimulating effect rapidly assists the healing processes.

I have found sockets so very sensitive after extracting, that it was well nigh impossible to swab them out even with the greatest care, but here the rapid effect of the agent is demonstrated, for upon making a second application it can be done almost immediately. The anodyne and anaesthetic effect is almost instantaneous.

When I have failed to stop the after pains with this remedy I have failed entirely, as I have found nothing that would succeed when it did not.

In preparing a mouth for artificial dentures, the free use of the concentrated carbolic acid in the painful or abscessed sockets, and the rinsing of the mouth with water as hot as can be borne, to which some tincture calendula has been added, will greatly assist Nature to perform her most important part.

C. P. HUBLEY.

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### Correction.

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Editor ITEMS OF INTEREST:

Dear Sir:—In my article on ball-ended pluggers, published in the May ITEMS OF INTEREST, "See *Dental Cosmos*, February, 1898," should read "See *Dental Cosmos*, February, 1878." It is more than twenty years since Fr. Fletcher, who was then practicing dentistry, advocated ball-ended pluggers. Yours faithfully,

WM. CASS GRAYSTON,  
Scarborough, England.



Dr. J. M. Porter.

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Died May 7, 1899, at Denver, Colo.

The Colorado College of Dental Surgery, recognizing the services rendered by Dr. Porter in the advancement of dental science, has adopted and ordered sent to the relatives and dental journals and spread upon its minutes, the following:

Dr. Porter was born in Massillon, Ohio, in the year 1849. He graduated at the Ohio College of Dental Surgery in 1872. In 1880 he came to Denver, Colo. He had always been an active, conscientious worker for the advancement and elevation of his chosen profession.

He was at various times connected with educational institutions and examining boards, occupying positions of trust and discharging his duties efficiently and conscientiously.

At the time of his death he was an active worker in the Colorado College of Dental Surgery and his genial countenance and cheering words will long be remembered by the many students who loved and honored him.

He was a member of the Colorado State Dental Association and the Denver Dental Society, the latter society having charge of the burial services. The dental profession has lost one of its most loyal supporters and earnest workers. The esteem and good will of the profession was evinced by the elaborate floral decorations and the large attendance at the funeral.

The dental profession recognizes its loss and keenly sympathizes with the bereaved relatives and friends.

A. L. WHITNEY, Sec'y.







## National Dental Association.

### Niagara Meeting.

The annual meeting of the National Dental Association will be held in the ballroom of the International Hotel, at Niagara Falls, Aug. 1, 2, 3, and 4, 1899.

A railroad rate of one and one-third fare on the certificate plan will be obtained. Also reduced rates on C. & B. and Northern Transportation Steamship Lines. It is suggested that members living at a considerable distance organize parties and thereby, be enabled to secure lower rates from railroad companies.

Following is a list of hotels:

Cataract House .....	\$3.00 to \$4.00 per day.
International Hotel .....	3.00 to 4.00 per day.
Kaltenback Hotel .....	3.00 per day.
Imperial Hotel .....	2.50 to 4.00 per day.
Columbia Hotel .....	1.50 to 2.00 per day.
Temperance House .....	1.50 to 2.00 per day.
Niagara Falls House .....	2.00 per day.
Niagara House .....	2.00 per day.

Dr. M. O. Cooley, of Niagara Falls, N. Y., will engage rooms and answer any questions regarding local arrangements for the meeting. Definite meeting places for sections will be announced later.

It is the wish of the officers of the Association that members make special efforts to be present at section meetings, on account of the unusual number of valuable papers which must first be passed upon by the sections to which they properly belong.

### Preliminary Programme.

Dr. N. S. Jenkins, Dresden,  
"Porcelain Enamel Inlays."

Dr. Edward H. Angle, St. Louis,  
"Orthodontia."—(Illustrated.)

- Dr. W. A. Price, Cleveland,  
 "The Absolute Efficiency of the Controllers on the Market for Dental  
 Cataphoresis."
- Dr. L. E. Custer, Dayton,  
 "Dental Electricity."
- Dr. S. S. Stowell, Pittsfield,  
 "The Practical Side of It."
- Dr. E. P. Beadles, Danville,  
 "A Bastard Profession."
- Dr. Truman W. Brophy, Chicago,  
 "Surgical Operations in Early Infancy for Palatal Defects."
- Dr. E. K. Wedelstaedt, Minneapolis,  
 "Cements."
- Dr. James Truman, Philadelphia,  
 "The Reflexes of the Three Lower Molars."
- Dr. B. H. Catching, Atlanta,  
 "Gomphosis."
- Dr. R. Ottolengui, New York,  
 "Prognathism." "Extraction and Delay vs. Expansion and Early  
 Attention."—(Illustrated.)
- Dr. W. V. B. Ames, Chicago,  
 "Some Phases of the Cement Question."
- Dr. Thomas Fillebrown, Boston,  
 "A Study of Harelip and Cleft Palate."—(Illustrated.)
- Dr. M. L. Rhein, New York,  
 "Pathology of the Pericementum."
- Dr. Harvey, Battle Creek,  
 "Constitutional Deterioration the Cause of Dental Caries."
- Dr. W. C. Barrett, Buffalo,  
 "Oral Affections in Secondary Syphilis."
- Dr. C. L. Hungerford, Kansas City,  
 "The Physiological Relations of the Adult Tooth Pulp to the Economy."
- Dr. A. H. Thompson, Topeka,  
 "Etiology of Gnathic Abnormalities."
- Dr. Robert H. Noues, Philadelphia,  
 "Dies and Counter Dies."
- Dr. Carl Theodore Gramm, Chicago,  
 "The Dental Profession in Charity—an Experiment."
- Dr. M. H. Cryer, Philadelphia,  
 "Some New Points in the Anatomy of the Face and Jaws."
- Dr. W. Geo. Beers, Montreal .....Subject to be announced.
- Dr. G. V. Black, Chicago .....Subject to be announced.

- Dr. H. L. Ambler, Cleveland ..... Subject to be announced.  
 Dr. W. H. Whistler, Cleveland ..... Subject to be announced.  
 Dr. Joseph Head, Philadelphia ..... Subject to be announced.  
 Dr. A. W. Harlan, Chicago ..... Subject to be announced.  
 Dr. John S. Marshall, Chicago ..... Subject to be announced.  
 Dr. C. N. Johnson, Chicago ..... Subject to be announced.  
 Dr. A. H. Peck, Chicago ..... Subject to be announced.  
 Dr. H. J. Goslee, Chicago ..... Subject to be announced.  
 Dr. R. H. Hofheinz, Rochester ..... Subject to be announced.  
 Dr. F. W. Low, Buffalo ..... Subject to be announced.  
 Dr. G. V. I. Brown, Milwaukee ..... Subject to be announced.  
 Dr. T. P. Hinman, Atlanta ..... Subject to be announced.  
 Dr. H. H. Johnson, Macon ..... Subject to be announced.  
 Dr. B. Holly Smith, Baltimore ..... Subject to be announced.  
 Dr. C. Edmund Kells, New Orleans ..... Subject to be announced.  
 Dr. M. C. Smith, Lynn ..... Subject to be announced.  
 Dr. L. M. Cowardin, Richmond ..... Subject to be announced.  
 Dr. Edward C. Kirk, Philadelphia ..... Subject to be announced.  
 Dr. L. L. Dunbar, San Francisco ..... Subject to be announced.  
 Dr. W. Ernest Walker, Pass Christian ..... Subject to be announced.

A revised programme with reports from chairmen of sections will be issued later. Prominent members of the profession from abroad have been invited to be present.

The names of the gentlemen who have promised to present papers is a sufficient guarantee of the high character of work which will be done at this meeting. The minor details will be carefully looked after and all unnecessary and irrelevant matter eliminated, so that the business of the Association may be transacted in a prompt and expeditious manner. It is hoped that the various State Societies will send full delegations, and that all members of the Association and reputable dentists in this country and Canada, who are not members, will show their interest in, and loyalty to the National Association, by attending this meeting.

H. J. BURKHART, President.

EMMA EAMES CHASE, Corresponding Secretary.

J. N. CROUSE, Chairman Executive Committee.



### Section of Stomatology.

## Programme.

- Chairman's Address .....Dr. G. V. I. Brown, Milwaukee.  
The Human Face and Jaws as a Danger Signal of Systemic Defect  
or Disorder .....Dr. J. G. Kiernan, Chicago.  
Cocaine and Eucaïne; Their Relative Toxicity .Dr. A. H. Peck, Chicago.  
Epithelial Structures in the Peridental Membrane .....  
Dr. Frederick Noyes, Chicago.  
Infectious Ulcerative Stomatitis .....Dr. John S. Marshall, Chicago.  
Oral Surgical Operation (with illustrations showing remarkable re-  
sults) .....Dr. G. V. I. Brown, Milwaukee.  
Some Points on the Etiology, Pathology and Treatment of Persist-  
ent Pyorrhea Alveolaris .....Dr. G. T. Carpenter, Chicago.  
Interstitial Gingivitis (so-called Pyorrhea Alveolaris), giving the re-  
sult of original work, with large photographic illustrations,  
showing the progress of the disease from beginning to the ex-  
foliation of the teeth .....Dr. Eugene S. Talbot, Chicago.  
Syphilitic Infection from Dental Instruments, with cases.....  
Dr. W. L. Baum, Chicago.  
Professional Education and Ethics.....Dr. A. E. Baldwin, Chicago.  
Neuralgias Due to Progressive Lesions of the Periosteum,  
Dr. M. H. Fletcher, Cincinnati.

The Treatment and Positive Cure of Pyorrhea Alveolaris in Connection with Restoration of Normal Articulation.....

Dr. W. G. A. Bonwill, Philadelphia, Pa.

The Therapeutics of Inflammation .....Dr. W. B. Hill, Milwaukee.

So-Called Pyorrhoea .....Dr. Ephraim Cutter, New York

Dr. Bonwill will hold a clinic independent of the meetings of the Section on Stomatology to those who wish to meet him.

GEO. V. I. BROWN, Chairman.

EUGENE S. TALBOT, Secretary.

### **New Jersey Dental Examining Board.**

The summer meeting of the New Jersey Dental Examination Board will commence on Wednesday, July 5, at 88 Broad street, Elizabeth, N. J., at 10 o'clock. All credentials from applicants must be approved by the Superintendent of Public Instruction and in the secretary's hands before June 20.

G. CARLETON BROWN, Secretary,  
88 Broad Street, Elizabeth, N. J.

### **Pennsylvania Board of Dental Examiners.**

The Pennsylvania Board of Dental Examiners will hold the next examinations at the University of Pennsylvania, Philadelphia, Pa., beginning June 20, at 9 a. m.

R. HUEY, Secretary, pro tem,  
330 South 15th Street, Philadelphia, Pa.

### **Indiana State Board of Dental Examiners.**

The Indiana State Board of Dental Examiners will conduct an examination in dentistry, in the State House, at Indianapolis, commencing Tuesday, June 13, 1899, at 9 o'clock a. m., sharp. All applicants must come prepared for a three or four days' session, at least two days of which will be devoted to practical work. Fee for this examination is \$20.

Those interested should address the secretary for further particulars.

M. A. MASON,  
Secretary Board of Examiners,

Fort Wayne, Ind.

### **Massachusetts Board of Registration in Dentistry.**

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A meeting of the Massachusetts Board of Registration in Dentistry, for the examination of candidates, will be held in Boston, Monday, June 19, 1899.

Candidates who have applied for examination will report to the secretary at 9:30 a. m., Harvard Dental School Infirmary, North Grove street, and come prepared with rubber-dam, gold and instruments, to demonstrate their skill in operative dentistry. Any one who wishes may bring his patient. Soon as possible patients will be furnished.

The theoretic examination will be written and include Anatomy, Physiology, Histology, Chemistry, Metallurgy, Pathology, Therapeutics, Surgery, Materia Medica, Anaesthesia, Operative and Prosthetic Dentistry, and will be held at Civil Service Rooms, State House, commencing Tuesday, June 20, at 9 o'clock.

All applications, together with the fee of twenty dollars, must be filed with the secretary of the board on or before June 12, as no application for this meeting will be received after that date.

Candidates who have failed and desire to take this examination must notify the secretary as above.

G. E. MITCHELL, D.D.S.,  
Secretary.

25 Merrimack St., Haverhill, Mass.

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### **Board of Dental Examiners of the State of Maine.**

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A meeting of the Board of Dental Examiners of the State of Maine will be held for the examination of applicants at the Eye and Ear Infirmary, corner of Congress and Vaughan streets, Portland, on Tuesday, June 27, 1899, at 2 o'clock.

Each applicant is required to bring gold and such instruments and appliances as he may require in operating upon the teeth. Those who wish may bring patients, but for those who do not, patients can usually be secured.

To secure examination at this meeting the application must be filed and the fee of twenty dollars must be paid to the secretary on or before Saturday, June 24.

D. W. FELLOWS, M.D., Secretary,  
Y. M. C. A. Building, Portland.

**Chicago Dental Society.**

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At the annual meeting of the Chicago Dental Society, held on Tuesday evening, April 4, 1899, the following officers were elected: President, Garrett Newkirk; first vice-president, G. W. Cook; second vice-president, B. D. Wikoff; secretary, Elgin Ma Whinney; corresponding secretary, C. S. Bigelow; treasurer, A. B. Clark; librarian, C. J. Merriman; member of Board of Directors, Edmund Noyes. Board of Censors, A. W. Harlan, chairman; W. V. B. Ames, C. N. Johnson.

C. S. BIGELOW, Corresponding Secretary,  
100 State Street, Chicago, Ill.

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**Missouri State Dental Association.**

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The thirty-fifth annual meeting of the Missouri State Dental Association will be held in the Warwick Club Assembly Room, Kansas City, Mo., July 11, 12, 13, 14, 1899.

An interesting programme will be presented.

Dr. C. L. Hungerford, Supervisor of Clinics, extends an invitation to all who have something new, novel or improved, to correspond with him.

Headquarters will be at the Midland Hotel. Rates, \$1.00 and upward, on European plan, \$2.50 on American plan. Rates at Victoria Hotel, \$2.00 per day—bath with every room.

Railroad rates of one and one-third fares, on certificate plan have been secured.

A cordial invitation is extended to all members of the profession in this and other States to attend.

B. L. THORPE, Cor. Sec'y,  
Laclede and Vandeventer Aves., St. Louis, Mo.

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**Massachusetts Dental Society.**

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The thirty-fifth annual meeting of the Massachusetts Dental Society will be held in Hotel Oxford, 22 Huntington avenue, Boston, June 7 and 8, 1899. There will be papers, clinics and exhibits, and the whole promises to be of unusual interest to all. Please mark off the dates now so that you may be able to attend all the sessions. Programmes will be sent about two weeks before the meeting.

EDGAR O. KINSMAN, Sec'y,  
Cambridge, Mass.

**California State Dental Association.**

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The next annual session of the California State Dental Association will be held in San Francisco, beginning Tuesday, June 20, and continuing four days.

W. Z. KING, Secretary,  
Flood Building, San Francisco, Cal.

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**Wisconsin State Dental Society.**

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The twenty-ninth annual meeting of the Wisconsin State Dental Society will be held in the Assembly Chamber, Capitol Building, Madison, Wis., July 18, 19 and 20, 1899. A cordial invitation is extended to all members of the profession to be present.

The State Board of Dental Examiners will meet at the same time and place, for the purpose of examining candidates for license to practice.

W. H. MUELLER, Secy.,  
21 West Main St., Madison, Wis.

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**Colorado State Dental Association.**

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The Colorado State Dental Association will convene in Denver, June 13, and remain in session June 13, 14, and 15.

It is hoped that a large number from out of the city will avail themselves of the opportunity and attend, as there will be much of interest to all dentists.

SARAH MAY TOWNSEND, D.D.S., Sec'y,  
Denver, Colo.

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**The Blackhawk County Dental Society.**

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The Blackhawk County Dental Society will hold its next meeting at Cedar Falls, Iowa, July 18, at which time they will have the usual programme; also the Introduction and Use of Rubber in Dentistry, by Dr. A. N. Ferris, and the Introduction and Use of Amalgam in Dentistry, by Dr. H. D. Haffa.

EDWARD E. PEEK, Secretary,  
Waterloo, Iowa.